399

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GATTCTTCCC TCGCTCTTAA GCTTCACCTT TCCAATTTTG CTATCAAATA TTTTTCAACA      1440

GCTCTATAAC ACTGCTGATG TCTTGATTGT TGGACGATTT CTTGGTCAAG AATCCTTGGC      1500

TGCAGTAGGA GCGACGACAG CGATTTTTGA CCTGATTGTA GGTTTTACAC TTGGTGTTGG      1560

CAATGGCATG GGGATTGTCA TTGCTCGTTA TTATGGGGCT CGGAATTTCA CTAAAATCAA      1620

GGAAGCAGTA GCAGCCACCT GGATTTTAGG TGCTCTTTTG AGCATTCTAG TTATGTTGCT      1680

GGGCTTTCTT GGCTTGTATC CTCTCTTGCA ATACTTAGAT ACTCCTGCAG AAATTCTTCC      1740

TCAATCTTAT CAATATATTT CTATGATTGT GACCTGTGTA GGTGTCAGCT TTGCTTATAA      1800

TCTTTTTGCA GGCTTGTTGC GGTCTATTGG TGACAGTCTA GCAGCCCTGG GATTTCTGAT      1860

TTTCTCTGCC TTGGTTAATG TGGTTCTGGA TCTCTATTTT ATTACGCAAT TGCATCTGGG      1920

AGTTCAATCC GCAGGACTTG CTACCATTAT TTCGCAAGGT TTATCAGCGG TTCTCTGCTT      1980

TTATTATATT CGTAAAAGTG TGCCAGAACT CTTGCCACAG TTTAAACATT TCAAATGGGA      2040

CAAAAGCTTG TACGCGGATC TCTTGGAGCA AGGTTTGGCT ATGGGCTTGA TGAGTTCAAT      2100

TGTATCTATC GGCAGTGTGA TTTTACAGTT TTCTGTTAAT ACATTTGGTG CAGTGATTAT      2160

TAGTGCCCAG ACGGCAGCTC GACGCATTAT GACCTTTGCC CTTCTTCCTA TGACCGCTAT      2220

TTCTGCATCA ATGACGACCT TTGCTTCTCA GAATCTAGGA GCTAAGCGAC CTGACCGTAT      2280

TGTTCAAGGT CTTCGAATCG GCAGTCGTTT AAGTATATCC TGGGCAGTTT TTGTTTGTAT      2340

TTTCCTCTTT TTTGCCAGTC CAGCTTTGGT TTCCTTCTTG GCTAGTTCGA CAGATGGTTA      2400

CTTGATAGAA AATGGAAGTC TCTATCTGCA AATCAGTTCA ACCTTTTATC CCATTTTGAG      2460

CCTCTTGTTG ATTTATCGCA ATTGCTTGCA GGGCTTGGGG CAAAAGATCC TTCCTCTAGT      2520

TTCTAGCTTT ATTGAACTAA TCGGAAAAAT CGTTTTTGTG GTTTTGATTA TTCCTTGGGC      2580

AGGATATAAG GGTGTTATCC TTTGTGAACC TCTTATCTGG GTTGCCATGA CAGTTCAACT      2640

GTACTTCTCA TTATTCCGTC ATCCCTTGAT AAAAGAAGGC AAGGCAATCT TGGCAACCAA      2700

AGTGCAATCC TAGTTGGATT TACTGAATAA AATCCATTTC CTCTAGTGAA AATCGAAAAA      2760

ACTTGTGTTC TCTTCTTTAG TTTGGTGTTG AAAATAGTTT AACAGACTTT TGACTTCTTT      2820

TATATGATAT AATAAAGTAT AGTATTTATG AAAAGGACAT ATAGAGACTG TAAAAATATA      2880

CTTTTGAAAA TCTTTTTAGT CTGGGGTGTT ATTGTAGATA GAATGCAGAC CTTGTCAGTC      2940

CTATTTACAG TGTCAAAATA GTGCGTTTTG AAGTTCTATC TACAAGCCTA ATCGTGACTA      3000

AGATTGTCTT CTTTGTAAGG TAGAAATAAA GGAGTTTCTG GTTCTGGATT GTAAAAAATG      3060

AGTTGTTTTA ATTGATAAGG AGTAGAATAT GGAAATTAAT GTGAGTAAAT TAAGAACAGA      3120
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                                    400
TTTGCCTCAA GTCGGCGTGC AACCATATAG GCAAGTACAC GCACACTCAA CTGGGAATCC    3180

GCATTCAACC GTACAGAATG AAGCGGATTA TCACTGGCGG AAAGACCCAG AATTAGGTTT    3240

TTTCTCGCAC ATTGTTGGGA ACGGTTGCAT CATGCAGGTA GGACCTGTTG ATAATGGTGC    3300

CTGGGACGTT GGGGGCGGTT GGAATGCTGA GACCTATGCA GCGGTTGAAC TGATTGAAAG    3360

CCATTCAACC AAAGAAGAGT TCATGACGGA CTACCGCCTT TATATCGAAC TCTTACGCAA    3420

TCTAGCAGAT GAAGCAGGTT TGCCGAAAAC GCTTGATACA GGGAGTTTAG CTGGAATTAA    3480

AACGCACGAG TATTGCACGA ATAACCAACC AAACAACCAC TCAGACCACG TTGACCCTTA    3540

TCCATATCTT GCTAAATGGG GCATTAGCCG TGAGCAGTTT AAGCATGATA TTGAGAACGG    3600

CTTGACGATT GAAACAGGCT GGCAGAAGAA TGACACTGGC TACTGGTACG TACATTCAGA    3660

CGGCTCTTAT CCAAAAGACA AGTTTGAGAA AATCAATGGC ACTTGGTACT ACTTTGACAG    3720

TTCAGGCTAT ATGCTTGCAG ACCGCTGGAG GAAGCACACA GACGGCAACT GGTACTGGTT    3780

CGACAACTCA GGCGAAATGG CTACAGGCTG GAAGAAAATC GCTGATAAGT GGTACTATTT    3840

CAACGAAGAA GGTGCCATGA AGACAGGCTG GGTCAAGTAC AAGGACACTT GGTACTACTT    3900

AGACGCTAAA GAAGGCGCCA TGGTATCAAA TGCCTTTATC CAGTCAGCGG ACGGAACAGG    3960

CTGGTACTAC CTCAAACCAG ACGGAACACT GGCAGACAAG CCAGAATTCA CAGTAGAGCC    4020

AGATGGCTTG ATTACAGTAA AATAATAATG GAATGTCTTT CAAATCAGAA CAGCGCATAT    4080

TATTAGGTCT TGAAAAAGCT TAATAGTATG CGTTTTCTTG TGGAGATATT TCCTTCAATT    4140

TTGCTACTAT ATTAAACAAA AATCAAAAAG CAAACTAGAA AGTTATGCTC AAATAAAATC    4200

TAAATTTGAC AATGTAAACC GAGTCGGATA GCTTTAAGTA CTGTTTTGAG GTTGAAGATA    4260

CGATTTTTGA TAGGAACTCA TCAATTTTAG ATTTTTAAGC AGCATCAATA AATTGCTTCC    4320

TTGTTTTGTC ATAATTTTTT TATTTAAAAA ATTATGACma GAGTGTGCTA TTCTTTTTAT    4380

GAGAGGTGTA TGAATATGAT AAATGTATGT GATAAATGTA TGTGATGTTG GAAAAAGAAT    4440

AAAAGAACTT AGAATATCTT CAAATCTTAC TCAAGATAAG ATTGCTGAGT ATTTGTCTTT    4500

GAATCAAAGC ATGATTGCCA AAATGGAAAA AGGTGAAAGG AATATCACGA ATGGATTTAA    4560

GTAATAAAGC TTCAAATCTT AGAAAAAAGT TGGGAGCTGA TGGTGAATCG CCGATAGATA    4620

TTTTTAAATT GGTACAAAAG ATAGAAAATT TGACGCTGGT ATTTTATGGA CTCGGAAAGA    4680

ATATTAGCGG AGTCTGTTAT AAAGGAACTC AGTTCAGTCT CATTGCAGTC AATTCAGACA    4740

TGCCATTAGG AAGGTAAAGA TTTTCTTTAG CACATGGACT GTATCATCTT TATTATGATG    4800

AGGTGAAGAA GAGTTCAGTC AGTCTTATCT TGATTGGTGA AGGAGATGAA ACTGAAAGAA    4860

AAGCGGATCA GTTTGCTTCT TATTTTTTAA TTTTCCCATC TTCACTGTAT AGGATGGTTG    4920
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401

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AGGAAATCAG AGAAAATGCC AATAGAACTC ATCTTGAAGT AGAAGATATT ATAAAATTGG    4980

GTCAGTTTTA TGGTATCAGT CATAAAGCTA TGTTATATAG ATTGAGGAAT GATGGATACC    5040

TTGATGCAGA AGAAATTAAA AATATGGATA TTAGTGTTAT AGAGACAGCT TCAAGATTAG    5100

GCTATGATAC AAGTTTATAT CGTCCTTTGT CAGAAAGTAA AAAAGAAATG GCATTAGGAT    5160

AATATATTAA TTCAACTGAA CAACTTTTAG AAAATAACAG AATTTCGCAA GGGAAGTATG    5220

AGGAACTGTT ACTAGATGCT TTCAGATATG ATATTGTATA TGGGCTAGAT GAAGAGGGGG    5280

GAGTTGTCGT TTGACTAGTC GTGTATTTAT TGATGCAGAT TGTATTTCAG TATTTTTATG    5340

GGTTGGCACT GAACATCTTT TAGAAAAGCT CTATTTGGGT AAAATTGTTA TTCCACAAGA    5400

GGTGTATGAT GAAATCAATA TACCTACAAT TCCCCATTTA AAATCTAGGA TAGATCAGTT    5460

GGTAGCTAAG GGTTCAGCTG AGATTGTGAG CATAGACATT GGAACTGAAG AATACGCATT    5520

ATATAGAGAT TTAACAAGAA ATCATGATAG TAACAAGATT ATTGGTAAGG GAGAAGGGGC    5580

ATCTATTTCC TTAGCGAAAA AGCATAATGG GATATTAGGA AGTAATAACC TAAGAGATGT    5640

TAAATCATAT GTAGAAGAAT TTTCTTTAGA ATATATGACA ACAGGAGATA TACTGATTGA    5700

AGCGTTTAAA GCGTAATTTA TTACTGAATA AGAGGGCAAT CATATCTGGA ATAATATGCT    5760

TAAAAAGAGA AGGAAAATTG GTGCAAATTC ATTTTCAGAC TATCTTCGTG GAAGTATTCA    5820

TCAAAATAGA CAAAAATAAA TTTGGATAAA TCGAACTCAC TATTCAGGAG GCATATGAGC    5880

AATTCGAAAA AGAAAAGTGT CAAATTGAGC CTATAGGAGT AGAAGTGAAA TAGTAAGTCC    5940

TGCATAGTGG ATGAGAGAAA AGTTCTCCTT GAAGTTTTCC TGAACTATCA GTCGCATGTC    6000

AAACGATATG TAGGGTAATG TGAGAGGGGA TAGCGAGTAG TTTTTGGTTA TTTTTATCAAA    6060

AAACTTATAT TTTATTATAC CGAATGATAA AATATAATAA AAATGATAGA ATAAGGAAAA    6120

AACATGAATG TCAAAAGAT AATGTCAATT TTTCAATCCT TTTATGTTGA TGTCAGTATT     6180

GAGGAACTGA CTTTGACTTT ACCAATCAGT TTTGTAAAAA GGTTTGAGTA TACTCAAATG    6240

ACTTTTCATA AGGAATCATT TTTATTGATT AAAGAAAAGA GAAGGGGGAG TTTGAGTTCA    6300

TTTGTTACTC AGGCTCGCAC TATGGGTGAA AAAGCCAATA TGGATGTTGT TTTGGTGTTT    6360

TCGAAGTTAT CAGACAGTGA AAAAAAGCAA TTACTTCAAG CTAGAGTTCC GTTTGTAGAC    6420

TTTAAGGGAA ACCTCTTCTT CCCTCCATTG GGACTAGTAC TCAATGCGAA TGATACTGAA    6480

GTCCCTAAGG AATTAACACC TAGCGAACAA TTAACGTGGA TTGCCTTTTT ATTGACAAAA    6540

GGTCAAAAAG TAGTAGATGT TGATTTGCTT TCACAAGTCA CTGGACTTCC AAACTCAACA    6600

ATTTATAGGT GTTTGAGGAC TTTTAAAGCT TTATATTGGT TAAACAAGCA AAATAAGCTT    6660
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402

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TACACATATA CGGTGTCAAA GAAAGAATTA TTCTTAAAAT CCGTGTCATG TTTATTTAAT        6720

CCCATCAAAA AACGGATTTT ATTGCCAGAT GGCGATATAA AGCAGATAAA ATCTGTTTCT        6780

AACCTTCTAT ATGGTGGTGC TTATGCTTTG TCGCATTCAA CTTTTTTAGC TGAAACGGAT        6840

GAAAATATTA GCTATGTCAT ATGGCAGAGA AAATTCAATC AGTTATCCTT GCCACTTTCT        6900

CAGCATGTTT TAAAATGAAA GATGCTAGAG ATATGGAAAT ATCGTCCTTT TGTATCTGAG        6960

TTTTGGAATG ATTTTAAAAA TAATCATGAT AAACAATTTG TAGATCCGAT TTCTCTTTAT        7020

TTGACCTTAA AAGATGATGA TGACCCACGT ATAGAGGAAG AGAGTGAAGC ACTAGAAAAT        7080

ATGATATTAC AGTATCTGGG AGAAGATGAT GCCAGCTAAT ACGAAAGTTA TTTTTCAAGA        7140

AATGTTTGCG GATTTTCAGA ACTATTATGT TCTGATTGGG GGAACTGCTA CCTCTATCGT        7200

ATTGGATTCG CAAGGATTTA AAAGTCGCAC AACAAAAGAT TATGATATGG TCATCATTGA        7260

TGAAGTAAAA AATAAGGAAT TTTATACTAC CTTGAATCAT TTTTTAGAAT TGGGAGAGTA        7320·

TCAAGGAAGT CAGAAAGATG AGAAAGCGCA GCTTTTTCGA TTTACAACAA CTAATCCTGA        7380

GTTTCCTTCT ATGATTGAAC TATTTAGTAT CTTACCAGAA TATCCATTAA AGAAGGACGG        7440

TCGAGAAATT CCCTTACATT TTGACCAAGA TGCTAGTTTA TCAGCCTTAT TATTGGATGA        7500·

AGATTATTAT AATATATTGG TGCATGAAAA AGAAACCATT CAGGGGTATT CGGTATTGAG        7560

TAATTGTGGT TTATACTCTT CGAAAATCTC TTCAAACCAC GTCAGCTTCC ATCTACAACC        7620

TCAAAACAGT GTTTTGAGCA GCCTGCAGCT AGCTTCCTAG TTTGCTCTTT GATTTTCATT        7680

GAGTATTAAT TATTTTTAAG GCTAAAGCTT GGCTGGATAT GAGGGAGCGC TCTGCCACAG        7740

GTGCTCAAGG TTTAAGTAAG TCCATTAAAA AGCATTTGAA TGACCTTACC CGTTTGACAG        7800

CTTCCTTGCT AGGAGATGAA AAGTTATCGG CTATAACATC AAGTAGTGCG GTAAAAGCAG        7860

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ACATTTCATT GGATCAAAAT GAAATTTTTG AAATTCTGAA AAATTTTCTC GATGGTTAAA        7980

ATAATTGTAG CGAGATGGCT ATATTGAATT CGTCTATATC TGGAAACTAG AAAAAACTTC        8040

AATTTCAGGA GAAAATGAAG TCAATCTTCC CACAATCAAA CGTATAGTAT CAAGGTTTTT        8100

CAAGACCTGA TATTATGCGT TTTTTGCTTT TCAAAACTTT TTGCCCAGTC TTCGTTTTTA        8160

TCCTCTAGTC ACTTGATTTG TTTCAGGTGG TTTTTTAGTA TAGTAGAATG AAACGAGAAC        8220

AGGACAAATT GATCAGGACA GTCAAATCGA TTTCTAACAA TGTTTTAGAA GCAGAAGTGT        8280

ACTATTCTAG TTTCAATCTA CTATAGTTAA ATCTGCGGTC AAGTCTACTG GTGAATCTAT        8340

GATTGTAATA CTCTTCCAAA ATCTCATCAA CCACGTCAGT CTTGCCTTGC AGTCTGTATC        8400

TTACTGACCA AGCTAGTGAT GGATTTAGAA TAGGTGATTT GGAGCGTCCT ATTAGCTAGG        8460
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403

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AAATGCTGCT CATAGTCCTT TGCTGAGGCT AGGGTGTTTC AACATTCAAC ACTCAACTGG     8520

TTGATCTAGT TGATAGGAAG GGAGTTACTA TAAAATACTC AGGCTTCCAT CATATTTTTT     8580

GAAACGATTG TGTAATCAAA ATGTACCAAT ATTGTAGTAT TGGTACAGAA GATGTTGTGA     8640

ATGGATAAAT ATATCATAAC TGCTATCTCA AAAAGATTTC ATATGTCTGT GCATATATAA     8700

TAGACTTCCT GCAAAACTAG AATCCTAGTT CATGATTGAT AATACCAGCA ATCAAATTCA     8760

TTCGTAATCC AAAGCGTTTA CGATGATTTC GATAGGTTGT TGAAAACATT TTAAACGTTT     8820

CTACTTTGGC AAAGATGTTC TCAACCTTGC TTCTCTCCTT AGATAGCGCA TGGTTATAGG     8880

CTTTATCTTC AGCTGTTAGC GGCTTGAGTT TGCTGGATTT ACGTGGAGTT TGTGCTTGAG     8940

GACATATCTT CATGAGCCCT TGATAACCAC TGTCAGCCAA GATTTTACCA GCTTGTCCGA     9000

TATTTCTGCA ACTCATTTTG AACAACTTCA TATCATGACA ATAGTTCACA GTGATATCCA     9060

AAGAAACAAT TCTCCCTTGA CTTGTGACAA TCGCTTGAGC CTTCATAGCG TGAAATTTCT     9120

TTTTACCAGA ATCATTCGCT AATTCTTTTT TTAGGGCGAT TGATTTTTAC TTCCGTCGCA     9180

TCAATCATTA CCGTGTCCTC AGAACTAAGA GGAGTTCTTG AAATCGTAAC ACCACTTTGA     9240

ACAAGAGTTA CTTCAACCCA TTGGCTCCGA CGGATTAAGT TGCTTTCGTG AATACCAAAA     9300

TCAGCCGCAA TTTCTTCATA AGTGCGGTAT TCTAGGCTTA ATTTAGGTTT TCGTCCACCT     9360

TTTGCGTGTT TAAGTTGATA AGCTGTTTTT AATACAGCTA ACATCTCTTT AAAAGTCGTG     9420

CGCTGAACAC CAACAAGACG CTTAAATCGT GTATCAGTTA ATTGTTTACT TGCTTCATAA     9480

TTTCGCAGGG AGTCTATTGA CTCTTTGGTA GGTGTCAATG TTTTTTTCAT CTATCCCGAG     9540

AATTATTTTC CCGCCATTTG TATTTGCAAA TGCTGAGTAG GTTTCCCAGA AAGACTCTGG     9600

AAGATTGTTT TTAGCTTTTT TGTATTCTAA ATCAACCCCT TCAAATTTTA AGTCCATATT     9660

TTTCCTTTAC ATCTGTTTTT TGTGGTTCTG GTATTTGTTC AAGTTGAGTG ATAATATAGC     9720

GAATTGAATT TCGAGAGTTT TTACTCAGTT AATTTCTTTT TTAACCCACT TTAATTGCTT     9780

TTTTAACACG GGTTAAAAAA GAAATTAAAG TGGGTTAATT TTTCTTGA               9828
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(2) INFORMATION FOR SEQ ID NO: 42:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 3369 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 42:

404

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CCGCGAAAGA TATTTTTGAA CAAGAGTTTG GACGTGAGGT CCGTGGCTAT AATAAAGTAG      60

AAGTTGACGA GTTTTTAGAC GATGTCATCA AGGACTATGA AACCTATGCT GCCTTGGTCA     120

AGTCACTTCG TCAGGAAATT GCGGATTTGA AGGAAGAATT AACTCGTAAA CCGAAACCTT     180

CACCAGTTCA AGCAGAACCC CTTGAAGCGG CAATTACAAG TTCTATGACG AATTTTGATA     240

TTTTGAAACG CCTGAATAGA TTGGAAAAAG AAGTTTTTGG TAAACAAATT TTAGATAACT     300

CAGATTTTTA AGTAGTTATT TGAGATGTGC AATTTTTGGA TAATCGCGTG AGGAGAATTG     360

TTTCTCATGA GGAAAGTCCA TGCTAGCACA GGCTGTGATG CCTGTAGTGT TTGTGCTAGG     420

CGAAACCATA AGCCTAGGGA CGAGAAATCG TTACGGCAGT TGAAATGGCT AAGTCCTTGG     480

ATAGGCCAGA GTAGGCTTGA AAGTGCCACA GTGACGGAGT CTTTCTGGAA ACAGAGAGAG     540

TGGAACGCGG TAAACCCCTC AAGCTAGCAA CCCAAATTTT GGTCGGGGCA TGGAGTACGC     600

GGAAACGAAC GTAGTATTCT GACTGCTATC AGCTAGAGCT GTTAGTGGTA GACAGATGAT     660

TATCGAAGGA AGTGGTCCTA GTCACTTCTG GAACAAAACA TGGCTTATAG AAAATTGCAT     720

ATAGGTTGGG GCTGAGAAAT TTTCTCAACC TCATTTTTTA AAGTGGACAT ATAGAAAGGT     780

CTTGCAAGAC TGTAACATGA AAAAAGAATT TAATTTAATT GCAACTGTGG CAGCAGGGCT     840

TGAGGCTGTC GTTGGTCGTG AAGTGCGAGA GTTGGGCTAC GATTGTCAGG TTGAAAATGG     900

ACGTGTTCGT TTTCAAGGAG ACGTGAGAGC TATTATCGAA ACCAACCTTT GGCTTCGGGC     960

AGCAGATCGT ATCAAAATTA TCGTAGGAAC GTTCCCAGCT AAGACTTTTG AAGAGCTATT    1020

TCAGGGAGTT TTCGCTTTGG ATTGGGAAAA TTATTTACCA CTTGGAGCTC GGTTCCCGAT    1080

TTCAAAAGCT AAATGTGTTA AGTCCAAACT TCACAATGAG CCCAGTGTTC AGGCTATTTC    1140

TAAGAAAGCT GTTGTCAAGA AATTGCAGAA ACACTATGCT CGCCCAGAAG GGGTTCCTCT    1200

GATGGAGAAT GGCCCAGAGT TTAAGATTGA GGTCTCTATT CTCAAAGATG TGGCAACTGT    1260

CATGATTGAT ACGACCGGGT CTAGCCTCTT TAAACGTGGT TATCGTACCG AAAAAGGTGG    1320

CGCTCCTATC AAGGAAAATA TGGCAGCAGC CATTTTACAA CTTTCTAACT GGTATCCAGA    1380

CAAGCCTTTG ATTGATCCGA CCTGTGGTTC GGGGACTTTC TGTATTGAGG CAGTTATGAT    1440

TGCTAGAAAG ATGGCGCCAG GTCTTCGTCG CTCTTTTGCA TTTGAGGAAT GGAACTGGAT    1500

CAGCGATCGC TTGATTCAAG AAGTGCGCAC AGAAGCGGCT AAAAAAGTAG ACCGTGAGCT    1560

TGAGCTGGAT ATCATGGGCT GTGATATTGA TGCTCGCATG GTGGAAATTG CTAAGGCCAA    1620

TGCTCAGGTA GCTGGTGTTG CAGGAGACAT TACTTTTAAG CAGATGCGCG TGCAGGATTT    1680

ACGTTCCGAT AAAATCAATG GAGTAATCAT TTCCAATCCG CCTTATGGTG AACGTTTGTC    1740

AGATGATGCA GGGGTGACCA AGCTCTATGC TGAGATGGGG CAAGTATTTG CACCGCTGAA    1800
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405

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AACTTGGAGC AAATTTATCC TGACTAGTGA TGAAGCTTTT GAAAGCAAGT ATGGTAGCCA      1860

AGCAGATAAG AAGCGTAAGT TATACAACGG AACCTTGAAA GTGGATCTAT ATCAATATTT      1920

TGGTCAGCGT GTCAAACGGC AAGAGGTAAA ATAGAAAGGG ATACTCATGA GTAAAAAAAG      1980

ACGAAATCGT CATAAAAAAG AAGGTCAAGA ACCGCAATTT GATTTTGATG AAGCAAAAGA      2040

GCTAACAGTT GGTCAAGCTA TTCGTAAAAA TGAAGAAGTG GAATCAGGAG TCTTGCCTGA      2100

GGATTCCATT TTGGACAAGT ATGTTAAGCA ACACAGAGAT GAAATTGAGG CGGATAAGTT      2160

TGCGACTCGT CAATACAAAA AAGAGGAGTT CGTTGAAACT CAGAGTCTGG ATGATTTAAT      2220

TCAAGAGATG CGTGAGGCTG TAGAGAAGTC AGAAGCTTCT TCGGAGGAAG TTCCATCTTC      2280

TGAAGACATC TTACTACCCT TGCCTCTGGA CGATGAGGAG CAAGGCTTGG ATCCTCTATT      2340

GCTAGATGAT GAAAATCCAA CAGAAATGAC TGAAGAAGTG GAAGAGGAGC AAAACCTTTC      2400

TCGTCTGGAT CAAGAGGACT CAGAAAAGAA AAGTAAAAAA GGCTTTATTT TGACCGTTTT      2460

GGCGCTTGTA TCAGTAATTA TTTGTGTCAG TGCTTATTAT GTCTACCGTC AAGTGGCTCG      2520

TTCGACTAAG GAAATTGAAA CTTCTCAATC AACTACAGCC AATCAATCGG ATGTGGATGA      2580

TTTTAATACA CTTTATGACG CCTTTTCACA AGATAGCAAT AAAACGGCTT TGAAAAATAG      2640

CCAGTTTGAT AAACTGAGTC AACTCAAGAC TTTACTTGAT AAGCTGGAAG GTAGTCGTGA      2700

ACATACGCTT GCCAAATCTA AATATGATAG TCTAGCAACG CAAATCAAGG CTATTCAAGA      2760

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AGCCAAATCG GATGCTAAAT TTACGGATAT TAAAACTGGA AATACGGAGC TTGATAAAGT      2880

GCTAGATAAG GCTATCAGTC TTGGTAAGAG CCAGCAAACA AGTACTTCTA GCTCAAGTTC      2940

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ACCAAGTAGT TCAAATGAGA CTAGAAGTAG TCGCAGTGAA GTCAATATGG GTCTCTCGAG      3060

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TGATAGTAAT AACTCTGCCT GGGATTTTGC GGATGGTGTC TTGGAACAAA TTCTAGCGAC      3180

TTCACGTTCA CGTGGCTATA TCACTGGAGA CCAATATATC CTTGAACGTG TCAATATCGT      3240

TAACGGCAAT GGTTATTACA ACCTCTACAA GCCAGATGGA ACCTATCTCT TTACCCTTAA      3300

CTGTAAGACA GGCTACTTTG TCGGAAATGG CGCTGGTCAT GCGGATGACT TAGATTACTA      3360

AGCAGTCGG                                                              3369
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(2) INFORMATION FOR SEQ ID NO: 43:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 9713 base pairs

406

(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 43:

AAGTTTACAA TTTAAATGAA TTAACAATTT TCCCAACTAA AAGCACTCCA GTTACCGCAA   60

CGTTTGTACT GAATGTACTA AATCGCATTC CATCAACTTC ATCTGTTTCG TCAACTTGAA   120

CAGATACTAA TTGAAGATTT AATACTTCTG CTGCCATAGC TAGCTCCTCC TATTTAAATT   180

TTTGGGATTA AGTACTTTAT CCACCCTCAT ATACTCTCTC CACCAGTAAA ATGCAAGCAA   240

TGATACAAAA TAGATTTAAC TATTTTATAT AGCGAAAACT TACAAATTTT TAAGAAATAA   300

TTTTTGCATT CTTAAAGATA AAATAGGAAC TTTTAGTAAT AAATATTAAA ATAAATAAAA   360

TAATAGATAC TATAAAATTT GGAAGTATTA ACCCCAAAAG ATTCATATCA TCTATTAAAA   420

TATCCTCTAA AGAGTAGTAT ATTAAAGCCA TAATTTTAAT GTTAAGTAAA AATGCAATTA   480

ATGAAGTAAC AAATGTCAAA AATATAGCCT CACCAACTTT AATCTTAACC ATCTGGTAAT   540

TAGAAGTTCC TAAAATTTCA AATTGCTGAA TCTCAATCCT TTCTTGATGC GATGACAAAA   600

ATGCAATTGA AATAATATTT GCAAGTACTA TCAAAATTGG TGCTCCTACA TAGACAATAA   660

ATGCTACTTT TAGCTCTAAA TCACTGTCAT CTTGAAATTG AGATAGTATA TTCTGAGAAA   720

TCATTTGAAA ACTAGAAATT AGTAATATAG CTCCTGTAAT TGCAGCACTG ATAGATTTTA   780

TATAAGACTT ACAATATAGT AAATTCCACT TCGAAACAAT GAACATAAAA TTATTTCTAA   840

ATATAATTAT AGAAAGTAGT TTGATAAAAC ATGACTGTAT AAAAGGAGAT AATTGATAAA   900

TAATCACAAT ATCTAAGATT ACAATATTGA ATATTATCTG GGCCTTCGCT AAAATTGTGC   960

TATCTTGGAA AATTTGTTGC AAAGAAAGCA ACCAGATAAC ACTAAAACCA GCCAATAGCA   1020

GTATTCTTTT TACTATTGAA AGAACATGCC TTATTTTAGA ACTCTTCCTA TTTCTAATCT   1080

TCTTGAACGT ATAAAAGCAA CCACTTAGAA AGGCTAAAAA TGAAATCAAC ACTACTGTAA   1140

TGATACATCC AACAGCACTC GTTTGAAATT GGATATCAGG TAATATATTT TCCCCGAAAA   1200

AGTATTGTAA AAAATAATAA TAATTTGACG TAACAAATAT AGAGCATAGA TATGCAATAA   1260

AACTAATAAT CGAGGAAATG ATAAAAATCT GTCCCCCCAC AAGAAATGAT AGTTGAAGGC   1320

GACTTGCTCC CAACACCTCC AGAAGTTCGT AATCATCTCT AAAAATTTCA ACCAACATAT   1380

TTATTATGTT AGAGAGCACA AAGAATAATG TTACTCCTCC GAATACTATC GGAAACATAA   1440

AAATTGGTTT AGGATCTGGA AGTCCGACAA ATACTTGCGA ATTATTCTCA ACATTAATTA   1500

CCCCATTAAC AGCCAATCCC ATAACTAAAC TCGAAACAAA AATTACTGGT GAAACGCCTA   1560

407

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ACCATTGTTT CTTATTATGT AAAAATTGAT AGTAAACTAA TCTGAGCATC TCTATTCCTC      1620

CGTAGTTGAT TGTACCTCTA AGATTTTATA CAACTCTTCC CCGCTAGGTC TATGAAGTTC      1680

TTTGAAAATT TTTCCATCTT TCAATATTAA TGCACGATCA GTTTTCGAGG CCAATTCTAT      1740

ATCGTGCGTT ACCATAATTA CACACTTACC CGCCCCTACT AACTCTCTCA ATAATTCAAA      1800

AATTACTTCA CGAGAAACGC TGTCTAAAGC CCCAGTTGGC TCATCAGCAA ATATTATATC      1860

ACTATCAGCA ATAACCGCTC TAGCTATAGC AACCTTCTGT TGTTCTCCAC CAGACAGAGT      1920

TCCAACAAAA TCGTTTAAGC CAGCATTAAA CTTCATTCTT TTGAGTAAGT TTTCTACATT      1980

TTTAATAGTT AATTTTTTTT GTGATAATCG CAAAGGAAGT GCTATATTTT CTATTACCGG      2040

CAGGGAAGGT ATTAAATTGT ATGCTTGAAA TATAAAGAT ACTTCGTTAC GTCTTATACT       2100

TGACAATTTT GCATTTCTGA TTTTATAGGG GTTGATTCCA TTTAAAATTA CTTCCCCACT      2160

TGTTGGTTCA AGCAAACTAG AAATACATTT TAATAAAGTT GACTTTCCAG AACCACTAAT      2220

TCCTAGAATA CTTATAAATT CTCCTCTCGA AGCAGAAAGA GAAACATTTT TCAGCACTTG      2280

CAACGTTTTA TTATTTCCTA GTAAAAATTG ATGATACAGC CCTTTCACTT TTAATATATA      2340

ATCTTTATCC ATATTCTTGC CTCCAATCAC TTAATTTTGA AAAGTGTTCC ATTTTCCAAT      2400

TTATATATAT CAGTGTATCT CTTGTCATTT AAGTCATAAT GATGTGAAAC TTCAATAAAT      2460

GAAATACCTA AATTGAACAG AATATCATGT ATGGAATTTG AATTATCATT ATCTAAATTA      2520

GCTGATATTT CGTCAAATAA GTACACTTTA TTATTTCTAA TCAGAGCTCT AGCTAAAGCT      2580

ATTTTTTGTT TTTGACCTCC AGACAAATTA CTACCATTTT CACCACATTG ATAATTTAGT      2640

ATATCTATCT TTTCTAATTC TTCATATAGA TTTACCTTTT TTAACACCTC AATTATCTGA      2700

TCATCTGAAA AATATTCATT TTGAAATAAA GTTACGTTCT CACGAATAGT AGTGTCAAAA      2760

ATATATGGTG TCTGATCAAC TGTTGGTATT GAATCTGAAC TCTTTTTCCC ATGTGATAAC      2820

AAATTTACAT AACCTTTTTG TGGCTTTAAA GAACCATTAA TTAAATTTAA AATCGTTGTT      2880

TTCCCACTAC CAGAAGTTCC TGTTAATAAT ACCCTAAATG GTGACTTAAA TGAGAAGTCA      2940

ATACTTAATT TATTTTCTGG TGTAATAGAA TATACAACAT CTTTCATGTG TATCTCATCT      3000

ATTGATGAAG TATACAGTCC GTTATTATCA TGTTCAGCGT CTATAAAATT CTTCTCTCCA      3060

CTTAAGTATT TTAAAAACGG TTTCCTTAAA TCTTTGGTTG TATTTATCTT ATTTAATGAA      3120

TAGGCAATTG ATTGTATCGG CCCTAAAACT TTATCGTTTG CTAAGAAAAT ACCTATCAGT      3180

TCACTAAAAG AAAGGCTTTT ATGATAAATT ACAAAATAAC ATCCTACAAC CAAGGGAACT      3240

AGAAAGCAAA AACCTGAAAT TAGTACTGCA ACCAATTTTG AAAGAACCTC TGATCGTTTC      3300
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408

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AAATTAAAAG TAGAATCTTC TAGTTTATCC AACTTTTTAT CCGACAAACT AATTATTTCT      3360

TTAGTAACAG AATAAGATTT TAATGTCTTA AAACCATTAA AAATTTCTTT TATTATGTGA      3420

GTATACTCTG CATTGCTGTT AGAGTACTCA TTAGCTGAAT TAGACAACAT CTTCTTCATA      3480

AAGACAGGTA CTATAATCGG CAATGCTGAT AATACAATAA ATATTATTGA nACTAGGAAG      3540

TTTAAATAAA GCATAAAACT TAGAGAGACG ATGAACAACA ATATTGAAGA AATTATTTCA      3600

AAAATTTGTC TAAAATAGTT TTCTTCGATT AATCTCAAAT CATTTGACAA AACTGAAATA      3660

ATAGATGAGT AATCTTTAAC CATTTCAGAA GAAAGATACT GTTCTCTAAA ATATCCTTGT      3720

TTAATTTTTA CATTTATATC TTTAGTTATT GATGCTTCCG TTACTTCTAA ATAGTAATTT      3780

GATATATAGA TTGCTGACCA ACCCAGAATA CTTATAGCAC CAAATCTTAG AACGTCAGAA      3840

AATGAGGAAG TCTGATTTAA ACTACCTGCA TATACAATAA TTCCTGAGAG CAAGACACCA      3900

TTAAACGAAG ATAGAAATAT TAAAATCCCC ATTAATATAA GTTTAGTCTT TTTTATAAAT      3960

TTTAAATAAT TCATAAGTTA TTCCTTCCCA CTTCTTCAAA GAAATAATTT AAAGTATCAA      4020

TCATTAAGAG AACATCTGAT GGAGTAAAAC CTCCATGACC AGCTGCTTTG TTTAAATACA      4080

ACAAACTTTT AACTCCAATA GAATTTAATT TCTTTGACCA CTCTATCACT TCGTTATTAT      4140

TAATATATGG GTCTTTCTCA CCCAAAATAT TAACTATAAC AGTATTTGAG TCTCGTGCCT      4200

TTTCAATATT TTGCATAGGC GAATATGACT TTATATAAGC CTTTACTTCA GGGTCTCTAA      4260

TATCTCCCCA CTCTGCTATT TCGGTCTTAG AAAGAGGATC ATTTGGATTC TGAAGTGTAT      4320

CATAAGGATT TATAAATGGC GAAAATAAGA GAATGCTTTG CAATAAATTT TTTTCCTCGT      4380

TCAACACCGC ACCAGCAATT ATTCCACCTG CACTAGAAGT TATTAAACCT AATCGCTTAC      4440

TGTCAATTAC ATCATTTTCC CTTAAATAAT TTACTCCCTC AATAAAATCT CTGATAGAAT      4500

TCCATTTGTT TAACGCCTTT CCTGAGCGAT ACCATTCACC ACCCAAATAG CCTCCACCTC      4560

TTACATGAAC TATAGCATAA ATAAAACCTG CATCTATTAT AGATAACATA ATTTCATCTA      4620

AATCAGAATT ATCATTCTTA CCATAAGCCC CATAGACACT TAGAATACAT TTTTTTCTTC      4680

TTGGGAGCTC ATCCGTATCT TCACTTTTCC AAAATAAAGA AATCGGTATG CTTACATCAT      4740

AACTGTCTTT TTTAGTCCAA ATCACCTTAG AAAAATATTT AGTATTATTC GATTTTATGA      4800

TGGGTCTTTC AAATTCAGTT TTTAATGTAT TTTCTATTAA ATCAAAACTA AGTATTTTTT      4860

CGTAAAAAGT TCTCCTCTCT AAAAACAGAA GAACACGATC AGAAAATGAA TTTTCATAAA      4920

GTGTTGTCTT TTCATCAAAT GTTATCTTAT TAACACTCAA CTCCCTCAAA CTATTATTTT      4980

TAAATGTAGC AAGATAAAAG ACGGAATTCG CTGCGTTTGA ACAGTCTAAA AGGATATAAC      5040

GTCCTATACA GTGAACTCTT CTAGCCCTAT CTTGATATGG TATAGTAATA GAAACTCTGT      5100
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409

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CTCCCGAAGA AGTTTCCCTT AGAATTAGTT GATCTTTCTT TTCTTCAGTT GAAGAGAGCC    5160

CAAGAAAGTA CTGTGCTTTT TCTGTACTAA ATAGAGCGAT ATCTCTAGGT GTTGGGGCTA    5220

CCGTTTCTGT GTAAGAGTGT CTAACAAAAC CCGTCCGGTC GAAACTGTAT AGAAAAATCC    5280

TGCCTTTCTG AAAGTCTACT GACTTTACAA AACAATTATT GCTATCAATG TGGACTATTT    5340

TTAATCGAAA AGAGCATTCG TTTTCTTCAA ACAGTTCCTC TTCTGTAAAG CTATCAAAAG    5400

ATTTATAGAA TAACTTACTT GGCCTCCCGT ACTCTTTGGA GCGAGTATAC ATAACACCGA    5460

ATTTACCCAA ATAGAACGAA CTTTCTACTG AAATATCTTC AATGATAAAT AACTCTTCCA    5520

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TATAACTCTC ATCAGATGAA ATCCTAACAT CCTGTAAGAT ACTATCATCT GGCAAAGTAT    5640

ATTTTTCCAC ATCAAAGACA ATTTTAAGTG AATTTGAATT GTCTAAACTG GAAGAACTAA    5700

CCTTAGGAAT CCAGTCATTA TCTTCGACAT ACCATTCCTT TATTACACCA GTATTGGGTA    5760

TACTCCAATT ATCAAATTGG TACCAATATC GCCCTCTCCT AAATATCAAA GAATTCCATT    5820

TTTTTAATTC CTGAAATGAT GAAGAGATAG ACCTCTTATA GTGTGTTTTT TCCTGTATTG    5880

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ATATTATATT TGAGGAAGAA TCGTCAATTT ATTATCCATT ATTGATACCA ATCCAATTGC    6000

AACACCCGCA AATCCCGAAG CAATATCTGT TGTTATCTTT AAACCATTAT CTCCCGCAAT    6060

AACAAATCCT TCTTCAATTA CACACAAATA TCTATAAAGT TGTTCAATTA ATTTCTTTTG    6120

TCCTGAAAAG TTATCATCGA TATCACTATA TATATTATTA GCAACTTCAA GACCACAAAA    6180

TCCGTTAAAT AAACCTGGTA ATACACAAAA AACTACATCA GTTGCCCTCT CTAAAGAAGT    6240

TAAATATTTT AAGTATTTGC TTGACAAGAT TTCTTTATTT CTATTAATAA GTAAAAGCAG    6300

GCCAGCACTT CCAGTTGCTA GATATGGTAG TAATCTATGA CCTTGGCTGT ACTGCAATGA    6360

ATTATTACTA TCTACTTTAT AAGCAACTAA TTCTTTATCT ACAGCCAATT CTAGACCATT    6420

TTTATAGATA CTTTCACCAG TTAATTTATA AGCTTCACCG AAGAGCCAAG CTACCCCTGC    6480

GTGACCATAT AGTAATCCAC CAAAATTCTC ATAAGGATCG TTACTCTGAA CATCACTAGC    6540

GCCAACTTTA CAAAAAGTTT CTGGATTTTC TATATAATTT AAAGTATATT CTCTAAGCCT    6600

AATTAGTATT TCTTCTCCTA GTTTATTATC AATTCCCCCT TTACTAAGAA AATACAGTCC    6660

AACCAGTAAA ATTCCAGCCT GCCCACTATA TAAATTTTTA TTTTGTGAAT CTCAAATAT    6720

CTCTATAAAA TGAGTTGTAA AAAGTTCAAC TGCCCGATCT ATCTCCCCAA ATTCATAAAT    6780

GAGCCAGATT GTACCAATTT TACCATCAAA AAGACCAGAA AGGGACGATT TCTTAAAATT    6840
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410

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ATTTACTGCC TCATTAATAA CCTGTGTTCG AATCTCATAA TAGTCATCAA ACTTGAAATT    6900

TTTTACTTTC TTAGCTAGTT GTTGATAACT CCAAAGGATA GCTAAATCTG AAAACGCAAT    6960

TCCTTGATTA AAATTCAGAC CATAATAATG AACTGGGAAG AATCTTGATT GAAATTCTTT    7020

ACGCCACTGT CCATAAGTTA GCGTAAACCC TCTCAATAAT TTTATAATAA AATCTTGTAT    7080

ATCTTGCTCA CTCTCGATAG TTCTAATCTC ATGCATGGGT TTTAAAACTT TTTTCCTGGA    7140

AATATTCTCA ATCTGTGGAC ATTTAGAATC TAGATATGAC AATAAACTTT CTACATAATC    7200

TATATGTTCT CTTGTATAAC CCAAAGACTC AAATAGTTTT TTTCCTTCTA TCCTGGTTTG    7260

ACTTACATAG TTGTATGTCA AATCCGATGT AGTTACTAGT GGCATGTATA AATAATGAGC    7320

TATTTGTCTA ATACCATACC AATCTATCTC ACTGGGAAGT GTTTCTCGCC ATGCTCTAAA    7380

ACCAGGGGCT GCAACTTTAT GTACAACTTT TTCATCATTT GAAAAGACAG CCTGTTCCCA    7440

GTCTATTATA CTAATCTCAT CTTCATCCTT AACCAAGATA TTTCCTAAAT GTAAATCTTG    7500

ATGATATACA TTTTCAGAAT GAAACTTATT CGTTAAATCG ATGAGTTTTT CTACTATCTT    7560

TGAAACTCTC AATAGATAAT CTTTGGTCTT ATCAACAACT TCATATAAAG GAAAATTATT    7620

GGTAACCCAT CTATTTAGTG GAACGCCCTT CATATGTTCA ATTCCTAAGA AGGTGTGCTC    7680

CCAGATCTTA CCGTGCCAGT ATATTTTAGG CGTCTCACTC CATTCATTTA GAATTTTTAG    7740

TGCTTTGCAC TCCGAAGCTA ATTTCTCTGA AGAATAAGTA CCATCAAATC CTAGACCTGT    7800

ATACGGTCTA GCCTCTTTTA AAATTATTTT TTTCCCATCT TCTTTTAGCC TAGCATTATA    7860

TATCCCACCA CTGTTTGAAA ATCTAATTGC ATTATCTATA ATAAAGGGAA AGTCTCCCTG    7920

TTTTTTATCT TTCTTGTCAA GCCATTTATT CAAAAAGTCA GGGGGCACTA TACCTTTTGG    7980

AATTTTAAAT ACTGGTAAAC GTTCATCTTT AACAACTTCA TCGCCAACAA TTAATTCATC    8040

AATAGCAACC TTCTTTTCAT CATCCCTTGA CGGCCTAAAC ACACCATACC TCAGATATAT    8100

TGGTGCTTCA TCCCAACGTT TATCGCTTAA AATATATGGC CCATTATATT GCTTTAAGGC    8160

ACTTTCTAAC CTTTGCAAAA CCGACTCTAA TTCATTTTGA TTTGGATAAC ATGTAATAAA    8220

TTTACCAGAA AATCCTCGAC TAACCAATTT CCCGTTTCGC ATGATAAATT TGTCTTCTGT    8280

ACTAAGATGT TTAAATGGAA TTCGCATTTC ATGGCAAATT TTTGCTACAT CTTGTAACAA    8340

TTCATGTGAA CTGTTATACT CTGAACTAAT GTGTATTTTC CACCCTTGTC TTTCAACAAA    8400

TTTTCCAATA GGGTATTGAT AAACCCACTC ATCATTATTC ATTACTTCGT GCCAATTAAA    8460

AGGCAGACTT ACTTGGTACT TTATGCTAGT ATCTGTACTA TAATCATTAT TAGTGAAAAA    8520

GAAAGGATGC TCCAAATTGA AATTATAATC CATAACAAAA TCTCCAAGAA ATTTTATCAA    8580

ACTTAATATA TCTATAGCTA GACAGACTTA TTTAAATAAA AAGGGAGAAT CCTTTGGATT    8640
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411

CTCCCCATAT AAGCACTAAC ATTCCAACGT GCACATATTG GAACGACATC CATAACTCCA   8700

GAGAATCTCT AAAGTTTACA ATTTAAATGA ATTAACAATT TTCCCAACTA AAAGCACTCC   8760

AGTTACCGCA ACGATTTGTA CTGAATGTAC TAAATCGCAT TCCATCAACT TCATCTGTTT   8820

CGTCAACTTG AACAGATACT AATTGAAGAT TTAATACTTC TTCTGCCATA GCTAGCTCCT   8880

CCTATTTAAA TTTTTGGGAT TAAGTACTTT ATCCACCCTC ATTATACTCT CTCCACCAGT   8940

AAAATGCAAG CAATTATACA ATGTTGTCAC ATAGAAAATA ATGTTTCCGT AACTTTTCAA   9000

AGTAACTTCC ATCTCTCTCC CAAAACTGGA AGTTAGTTTT AGAAGTTACC TAAAAATCAG   9060

GTCACCTATT TTAAAAAAGC AGCAAACTAT AAACTAGTAG GTTCCACACC AAATGTAGTC   9120

CCATACTGCC CCATAAGTCA GATTTATAGC GCACCATACC TAAAAACATC CCAAGTGAAA   9180

CATACAAACA CCAAGCTAGA ATGGTTCCTG TATGATGTGC TAAGGCAAAT AAAACACTTG   9240

TCAAAGCAAC TCTGATATCT AATTTTCTGA CCAAATTCCA TAAAATTTCT CGATACAGAA   9300

ATTCTTCAAC CATACTCGCA TTGATTAAGA ACAATAAAAA TGAAAACCAA GGAATTTGAT   9360

GTTGAAGGCC AATTAAGTTT GCTTGATTCG TGCTTCCTTG AGCATGAATC AGACTAAAAC   9420

ATAGACTTAT AATCAGTAGG CTAACAAATT CAACACCAAG CCATTTCATC CTAGATTTCA   9480

TATTGACCTT ATGCGCTTGT TTGCGTTGGC CATACATCCA TAAAAAAGAA ATGAGTGACG   9540

AACCATAGAG AATCTGTAGT ATAGTTmACT CACCGATACA AAGAAATTTC AATAAGTATA   9600

GAGrTACCAA TAsGACATTT ACTTGTTGGA ATATATAAAC TGGAATTATT CTTTTCATAG   9660

TTACCTCCGA AATAAATCTT CATAATCTAA ATCTAATACC TGCACAATCC TTT   9713

(2) INFORMATION FOR SEQ ID NO: 44:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 8657 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 44:

AAAGAAATTG TCAGAGAGTG GCTAGATGAA GTAGCAGAGC GGGCTAAGGA CTATCCAGAG   60

TGGGTGGATG TTTTCGAGCG TTGCTACACC GATACCTTGG ACAATACGGT TGAAATCTTA   120

GAAGATGGTT CAACTTTTGT CTTGACTGGG GATATTCCTG CCATGTGGCT TCGAGATTCG   180

ACAGCCCAAC TCAGACCCTA CCTTCATGTA GCTAAAAGAG ATGCCCTCCT GCGTCAGACC   240

ATTGCAGGTT TGGTCAAACG TCAGATGACC TTGGTACTCA AGGATCCCTA TGCTAACTCC   300

412

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TTCAACATTG AGGAGAACTG GAAAGGGCAC CACGAGACTG ACCACACAGA CCTTAACGGC      360

TGGATCTGGG AGCGCAAGTA TGAGGTGGAT TCGCTTTGCT ATCCTTTGCA GTTGGCTTAT      420

CTCCTCTGGA AAGAGACTGG CGAGACTAGT CAGTTTGATG AGATTTTTGT CGCAGCGACT      480

AAGGAAATTC TCCATCTGTG GACGGTGGAA CAAGACCACA AGAACTCTCC TTATCGTTTT      540

GTCCGAGATA CGGACCGTAA GGAAGACACC TTGGTAAATG ATGGCTTTGG ACCTGACTTT      600

GCAGTGACAG GTATGACTTG GTCAGCTTTT CGTCCGAGTG ATGACTGTTG CCAGTATAGT      660

TACTTGATTC CGTCAAATAT GTTTGCTGTA GTAGTCTTGG GTTATGTGCA AGAAATCTTC      720

GCAGCATTAA ACCTAGCTGA TAGCCAGAGT GTTATTGCTG ATGCCAAGCG TCTTCAGGAT      780

GAAATCCAAG AAGGAATCAA AAACTACGCT TACACCACCA ACAGCAAGGG CGAAAAGATT      840

TACGCTTTTG AAGTGGATGG CCTAGGAAAT GCCAGCATCA TGGATGATCC AAATGTACCA      900

AGTCTACTAG CTGCGCCCTA TCTGGGCTAC TGTTCGGTCG ATGATGAAGT GTATCAAGCT      960

ACTCGTCGTA CCATTTTGAG CTCTGAAAAT CCATACTTCT ACCAAGGAGA ATACGCAAGC     1020

GGTCTCGGCA GTTCTCATAC CTTCTATCGC TATATCTGGC CAATCGCCCT TTCTATCCAA     1080

GGCTTGACAA CAAGAGATAA GGCAGAGAAA AAATTCTTGC TGGATCAGCT GGTTGCCTGC     1140

GATGGTGGTA CAGGTGTCAT GCACGAAAGC TTTCATGTAG ATGATCCGAC CCTCTACTCT     1200

CGTGAATGGT TCTCCTGGGC TAACATGATG TTCTGTGAGT TGGTCTTGGA TTACTTGGAT     1260

ATTCGCTAAG GGGCTCGCTT TAGCTCAACC GATTCTTATC AGAATCACAA GTTTACATTT     1320

AAAACGTTAA AATTTAAATT TAGAATGAGG TTTTACTTCA TGGAAAATGT TGTTGTACAT     1380

ATTATCTCAC ATAGTCACTG GGATCGTGAG TGGTACTTGC CTTTTGAAAG CCATCGTATG     1440

CAGTTGGTGG AATTGTTTGA CAATCTCTTT GATCTCTTTG AAAATGACCC TGAGTTCAAG     1500

AGTTTCCACT TGGATGGACA AACTATTGTC CTTGATGACT ACTTACAAAT TCGCCCTGAA     1560

AATCGCGACA AGGTCCAACG CTACATTGAC GAGGGCAAAC TTAAAATTGG TCCCTTTTAC     1620

ATCTTGCAGG ATGACTACTT GATCTCCAGT GAAGCCAATG TCCGCAATAC CTTGATTGGT     1680

CAACAAGAAG CTGCCAAATG GGGTAAATCA ACCCAGATTG GCTACTTTCC AGATACCTTT     1740

GGAAATATGG GACAAGCGCC TCAAATTCTT CAAAAATCAG GCATTCACGT GGCGGCCTTT     1800

GGTCGTGGTG TGAAGCCGAT TGGATTTGAC AACCAAGTCC TTGAAGATGA GCAGTTTACG     1860

TCTCAGTTTT CAGAAATGTA CTGGCAGGGT GTGGATGGTA GTCGTGTTTT AGGTATTCTC     1920

TTTGCCAACT GGTACAGTAA CGGGAATGAA ATTCCAGTTG ACAAAGATGA GGCCTTGACC     1980

TTCTGGAAAC AAAAATTGTC AGATGTGCGT GCCTACGCTT CGACCAACCA ATGGTTGATG     2040

ATGAACGGCT GTGACCACCA GCCTGTACAG AAAAATCTGA GCGAAGCCAT TCGTGTGGCA     2100
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413

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AATGAACTCT TCCCGGATGT AATCTTTGTT CATAGTTCTT TTGATGAATA TGTTCAAGCT      2160

GTAGAAGGTG CGCTTCCTGA ACACTTATCA ACTGTTACAG GCGAGTTGAC CAGTCAGGAA      2220

ACAGATGGCT GGTACACACT TGCCAACACT TCTTCATCCC GCATTTACCT AAAACAAGCC      2280

TTCCAAGAAA ATAGCAACCT CCTAGAGCAA GTGGTAGAAC CCTTGACTAT TATCACTGGT      2340

GGACACAACC ACAAGGACCA GTTGACCTAT GCTTGGAAAA CACTTTTGCA GAATGCGCCA      2400

CATGATAGTA TCTGTGGCTG TAGCGTGGAC GAAGTTCACC GCGAGATGGA AACGCGTTTT      2460

GCCAAGGTCA ACCAAGTAGG AAACTTTGTT AAAAGTAACT TGCTCAACGA GTGGAAGGGT      2520

AAAATTGCTA CGGATAAGGC TCAAAGTGAC TATCTCTTTA CTGTCATTAA CACAGGCTTG      2580

CATGATAAGG TCGATACTGT CAGCACAGTG ATTGATGTGG CGACTTGTGA TTTCAAGGAA      2640

TTGCACCCAA CAGAAGGCTA CAAAAAGATG GCTGCTCTTA TCTTGCCAAG TTACCGTGTG      2700

GAGGACTTGG ATGGTCGTCC TGTAGAGGCT ACAATCGAAG ACCTCGGAGC TAATTTTGAG      2760

TATAATTTAC CAAAAGACAA GTTCCGCCAA GCTCGTATTG CTCGTCAAGT GCGCGTGACC      2820

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GAACACCGTG AGGGTATTTA CCAAAACGGA GTGATTGATA CACCATTCGT AACGGTGAGT      2940

GTGGATGACA ACATCACAGT CTATGACAAG ACAACTCACG AAGCCTATGA AGACTTTATC      3000

CGCTTTGAAG ACCGTGGGGA CATCGGAAAC GAGTATATCT ATTTCCAACC AAAAGGAACA      3060

GAGCCAATCT TTGCAGAGCT TAAGGGCCAC GAGGTCTTGG AAAACACAGC TTGCTATGCT      3120

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GAGCAACAAG GTATCATCGA GTTTATGAAG CGTGAGGCTG GACGGTCAGA AGAATTGACA      3240

AACATTCCTC TGGAAACTGA GTTGACTGTC TTCGTTGACA ATCCACAAAT CCGCTTCAAG      3300

ACTCGCTTTA CTAACACTGC CAAGGATCAC CGTATCCGTC TCTTGGTCAA GACTCATAAC      3360

ACGCGTCCAA GCAATGATTC TGAAAGTATC TATGAGGTGG TGACACGACC AAACAAACCA      3420

GCTGCTTCAT GGGAAAACCC TGAAAATCCT CAACACCAAC AAGCTTTTGT CAGTCTGTAT      3480

GACGATGAAA AAGGGGTGAC TGTATCCAAC AAGGGATTGA ATGAATACGA AATCCTTGGG      3540

GATAACACCA TTGCCGTGAC CATTTTGCGT GCATCAGGTG AGCTAGGTGA CTGGGGCTAC      3600

TTCCCAACGC CAGAAGCACA ATGCTTGCGG GAGTTTGAAG TCGAGTTTGC ACTTGAATGC      3660

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ACCAGCCTTC AGCTTGCTAG ACAGGAAGGA AGCGTGGTTG CGACTGGTAG CCTCTTGAGC      3780

CATTCTGTTC TCAGCATACC GCAAGTTTGT CCAACAGCCT TTAAGGTAGC TGAAAATGAA      3840
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414

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GAAGGCTATG TGCTTCGTTA CTACAATATG TGTAGTGAAA ATGTACGTGT GCCAGAAAGT        3900

CAACATCTCT TCCTTGACCT ACTTGAACGA CCATACCCAG TTCATTCAGG ACTATTGGCT        3960

CCACAAGAGA TTCGTACAGA ATTCATCAAA AAAGAAGAAA TTTAATTTCA AAAAGTAAAC        4020

ATCAAAAGAA AGGAGGGGCG AAAAAGTAAG AACTAACTGC TGATTCGCCC CTTTTATGGT        4080

AAAAACAATG ACCATTGCAA CGATTGATAT CGGAGGGACT GGGATTAAGT TTGCCAGTCT        4140

GACTCCTGAT GGGAAAATAC TGGATAAGAC AAGTATTTCA ACGCCTGAAA ACTTGGAGGA        4200

TTTACTAGCG TGGCTAGATC AACGCTTGTC AGAACAGGAT TACAGTGGGA TTGCTATGAG        4260

CGTTCCAGGT GCAGTCAATC AAGAGACAGG TGTGATTGAT GGCTTCAGTG CGGTGCCCTA        4320

CATCCATGGC TTTTCTTGGT ATGAGGCGCT TAGCTCTTAT CAGCTACCTG TCCATTTAGA        4380

AAATGATGCC AACTGCGTTG GACTCAGTGA ACTACTAGCT CATCCAGAGC TTGAAAATGC        4440

AGCCTGTGTC GTGATTGGGA CAGGGATTGG CGGAGCCATG ATTATCAATG GTAGACTTCA        4500

TCGAGGTCGC CACGGTCTGG GTGGAGAATT TGGCTACATG ACAACCCTTG CCCCTGCTGA        4560

AAAACTTAAT AACTGGTCGC AACTAGCATC AACTGGGAAT ATGGTACGAT ACGTGATTGA        4620

AAAATCTGGT CATACTGATT GGGACGGTCG CAAGATTTAC CAAGAGGCCG CAGCTGGTAA        4680

TATCCTTTGT CAAGAAGCCA TTGAGCGCAT GAACCGCAAT CTGGCGCAAG GCTTGCTCAA        4740

TATCCAGTAT CTGATCGATC CAGGTGTCAT CAGTCTGGGT GGCTCTATCA GTCAAAATCC        4800

AGATTTTATC CAAGGTGTCA AGAAGGCTGT TGAAGACTTT GTCGATGCCT ACGAAGAATA        4860

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TCTTGTCAAC TGGCTACAGG AGGAAAAGCA ATGGTAAGAT TTACAGGACT TAGTCTCAAA        4980

CAAACGCAAG CTATTGAGGT TTTAAAAGGT CACATTTCTC TACCAGATGT GGAAGTGGCT        5040

GTCACTCAGT CTGACCAAGC ATCTATCTCT ATCGAGGGTG AGGAAGGTCA CTATCAATTG        5100

ACCTACCGCA AACCTCACCA ACTTTATCGT GCCTTGTCCT TGTTGGTAAC AGTTCTAGCA       ·5160

GAAGCTGATA AAGTAGAGAT TGAGGAACAA GCAGCTTACG AAGATTTGGC TTACATGGTT        5220

GACTGTTCTC GAAATGCGGT GCTGAATGTG GCTTCTGCCA AGCAGATGAT TGAGATATTG        5280

GCTCTCATGG GCTACTCAAC CTTTGAGCTT TACATGGAAG ACACTTACCA GATTGAAGGG        5340

CAGCCTTACT TTGGCTATTT CCGTGGAGCT TATTCAGCAG AGGAGTTGCA GGAAATCGAA        5400

GCCTATGCCC AACAGTTTGA CGTGACCTTT GTACCATGCA TCCAGACCTT GGCCCACTTG        5460

TCGGCCTTTG TCAAATGGGG TGTCAAGGAA GTGCAGGAGC TCCGTGATGT AGAGGACATT        5520

CTTCTCATTG GCGAAGAAAA GGTTTATGAC TTGATTGATG GCATGTTTGC CACGTTGTCT        5580

AAACTGAAGA CTCGCAAGGT CAATATCGGG ATGGACGAAG CCCACTTGGT TGGTTTGGGA        5640
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415

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CGCTACCTGA TTCTGAACGG TGTTGTGGAT CGTAGTCTCC TCATGTGCCA ACACTTGGAG    5700

CGCGTGCTGG ATATTGCTGA CAAATATGGT TTCCACTGCC AGATGTGGAG TGATATGTTC    5760

TTCAAACTCA TGTCAGCGGA TGGCCAGTAC GACCGTGATG TGGAAATTCC AGAGGAAACT    5820

CGTGTCTACC TAGACCGTCT CAAAGACCGT GTGACTCTGG TTTACTGGGA TTATTATCAG    5880

GATAGCGAGG AAAAATACAA CCGTAATTTC CGCAATCATC ACAAGATTAG CCATGACCTT    5940

GCATTTGCAG GGGGAGCTTG GAAGTGGATT GGCTTTACAC CTCACAACCA TTTTAGCCGT    6000

CTAGTGGCTA TCGAGGCTAA TAAAGCCTGC CGTGCCAATC AGATTAAAGA AGTCATCGTA    6060

ACGGGTTGGG GAGACAATGG TGGTGAAACT GCCCAGTTCT CTATCCTACC AAGCTTGCAA    6120

ATCTGGGCAG AACTCAGCTA TCGCAATGAC CTAGATGGTT TGTCTGCGCA CTTCAAGACC    6180

AATACTGGTC TAACGGTTGA GGATTTTATG CAGATTGACC TTGCCAACCT CTTACCAGAC    6240

CTACCAGGCA ATCTCAGCGG TATCAATCCC AACCGCTATG TTTTTTATCA GGATATTCTT    6300

TGTCCGATTC TTGATCAACA CATGACACCT GAACAGGACA AACCGCACTT CGCTCAGGCT    6360

GCTGAGACGC TTGCTAACAT TAAAGAAAAA GCTGGAAACT ATGCCTATCT CTTTGAAACT    6420

CAGGCCCAGT TGAATGCTAT TTTAAGTAGC AAAGTAGATG TGGGACGACG CATTCGTCAG    6480

GCCTACCAAG CGGATGATAA AGAAAGTTTA CAACAAATCG CCAGACAAGA ATTACCAGAA    6540

CTTAGAAGCC AAAATTGAAGA CTTCCATGCC CTCTTTAGCC ACCAATGGCT GAAAGAAAAC    6600

AAGGTCTTTG GTTTGGATAC AGTTGACATC CGTATGGGCG GACTCTTGCA ACGCATCAAA    6660

CGAGCAGAAA GCCGTATCGA GGTTTATCTG GCTGGTCAGC TTGACCGCAT CGACGAGCTG    6720

GAAGTTGAAA TCCTACCATT TACTGACTTC TACGCAGACA AGGATTTCGC AGCAACTACA    6780

GCCAACCAGT GGCATACCAT TGCGACAGCG TCGACGATTT ATACGACTTA ATATTCTTCG    6840

AAAATCTCTT CAAACCACGT CAGCTTCCAT CTGCAACCTC AAAACAGTGT TTTGAGCAAC    6900

CTGCAGCTAG CTTCCTAGTT TGCTCTTTGA TTTTCATTGA GTATAAAAAC AAGAACACCT    6960

TGCTTGGCGC AGGGTGTTTC GCGTGAAACA GAAGAATTAT CTGGTTTCAA ATGCTACAGT    7020

TAGACAAACT TATGATAAAA TAGCAGAAAG TGAATGTTTC CTAAGAGCAA TTGGAGGTAT    7080

TATGCTACAC TTAAAATTAG TAAAACAAGA AATAGAAGCT GAAAAGCCAG CATCTGTAGA    7140

AGCTTGGATC ATTTCCGTCA AATTTAAAAA AGGTTGCTAC CGACATATAT AGATTCCAAA    7200

AACAAAAACG TTAGCGGAAC TAGCAGATGT GATTTTATGG AGTTTTGATT TTGCAAATGA    7260

TCATGCTCAC GCATTTTTCA TGGATAATGT TGAGTGGAGT CATGCAGATT CTTACTTTCG    7320

TAGCTTTGTT AGTGACGATG TTGAAGAACG TTACACAGAA AATGTCTATC TGGATAGCCT    7380
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416

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AAGTGTCAAA CAAAAATTTA AGTTTATTTT CGACTTCGGT GATGAATGGC GTTTTGAATG    7440

CCAAGTGCTG AGAGAAATCG AGACAGAGGA CGAAGAAGCT TATCTCGTAC GTTCGGTTGG    7500

AACGTCGCCA GAACAATATC CAGATTATGA TGGTTTTGAC TATGAAGAAT GGTAAAATTG    7560

AAATCAGTCT GTGTAGGCTT AGTATTTCAA TAGACTTCCT GCAAAACTAG AATCCTAGTT    7620

CATGATTGAT AATACCAGCA ATCAAATTCA TTCGTAATCC GAAGCGTTTA CGATGATTTC    7680

GATAGGTTGT TGAAAACATT TTAAACGTTT TTACTTTGGC AAAGATGTTC TCAACCTTGC    7740

TTCTCTCCTT AGATAGCGCA TGGTTATAGG CTTTATCTTC AGCTGTTAGT GGCTTGAGTT    7800

TGCTGGATTT ACGTGAAGTT TGTGCTTGAG GACATATCTT CATGAGCCCT TGATAACCAC    7860

TGTCAGCCAA GATTTTACCA GCTTGTCCGA TATTTCTGCA ACTCATTTTG AACAACTTCA    7920

TATCATGACA ATAGTTCACA GTGATATCCA AAGAAACAAT TCTCCCTTGA CTTGTGACAA    7980

TCGCTTGAGC CTTCATAGCG TGAAATTTCT TTTTACCAGA ATCATTCGCT AATTCTTTTT    8040

TTAGGGCGAT TGATTTTTAC TTCCGTCGCA TCAATCATTA CCGTGTCCTC AGAACTAAGA    8100

GGAGTTCTTG AAATCGTAAC ACCACTTTGA ACAAGAGTTA CTTCAACCCA TTGGCTCCGA    8160

CGGATTAAGT TGCTTTCGTG AATACCAAAA TCAGCCGCAA TTTCTTCATA AGTGCGGTAT    8220

TCTAGGCTTA ATTTAGGTTT TCGTCCACCT TTTGCGTGTT TAAGTTGATA AGCTGTTTTT    8280

AATACAGCTA ACATCTCTTT AAAAGTCGTG CGCTGAACAC CAACAAGACG CTTAAATCGT    8340

GTATCAGTTA ATTGTTTACT TGCTTCATAA TTTCGCAGGG AGTCTATTGA CTCTTTGGTA    8400

GGTGTCAATG TTTTTTTCAT CTATCCCGAG AATTATTTTC CCGCCATTTG TATTTGCAAA    8460

TGCTGAGTAG GTTTCCCAGA AAGACTCTGG AAGATTGTTT TTAGCTTTTT TGTATTCTAA    8520

ATCAACCCCT TCAAATTTTA AGTCCATATT TTTCCTTTAC ATCTGTTTTT TGTGGTTCTG    8580

GTATTTGTTC AAGTTGAGTG ATAATATAGC GAATTGAATT TCGAGAGTTT TTACTCAGTT    8640

AATTTCTTTT TTAACCC                                                  8657
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(2) INFORMATION FOR SEQ ID NO: 45:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 11384 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 45:

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TCTATTTTGG GTATAGACTT ACCTATAAAG AAAAATATCT ATACACTGCC TTACTAGCTA    60

TACTGAACGA GTCAACAAAA ACGATATATA TTGATGATAT AAATACAGCA AGATTTTTTA   120
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417

ACTTCTTTGG CAATGATATT CCTAATTCGT CTTTAAAAAA AATTGACTAT ATCGCACCTT   180

CAGAAATTGT TTCATTTAGT ACGTACGTTC GACAACGTTC TAAAGTAATT CCTAAAATTT   240

TGGAACATAT ATTAAAATCA AGTTTTTTAT TAGAGAATAT AGATGTTTCT GGTTACACTG   300

TAAATATTTT AGAAGATCAA TTAACAAAAC ATAGAACAAT CAAAATTAGT AAAAACTAAC   360

TGGTTGATCT CATGTATAAA TACCTAACAA AACCACGCGC CTTGCCTGCT GATGGAAAGA   420

AAGGTACAAA TACATGAATA TCAAAGAAAA AATCAAAAAG AATGGCCAAA GAGTTTATTA   480

TGCTAGTGTT TATCTAGGCG TTGACCAACT AACGGGCAAA AAAGCCCGTA CAACTGTTAC   540

AGCAACCACT AAAAAGGGCG TTAAAGTAAA AGCGCGTGAT GCGATCAATA CTTTTGCTGC   600

TAATGGCTAT ACAGTTAAAG ACAAGCCGAC AATTACAACA TATAATGAGC TTGTAAAAGT   660

TTGGTGGGAT AGTTACAAGA ATACAGTTAA GCCAAATACT CGCCAATCCA TGGAGGGATT   720

GGTTAGAGTG CATTTATTGC CTGTATTTGG CGATTACAAG CTATCTAAAC TTACTACGCC   780

TATTCTTCAA CAGCAAGTAA ACAAATGGGC TGACAAGGCA AATAAAGGCG AAAAAGGGGC   840

ATTTGCTAAC TACTCTTTGC TCCATAACAT GAATAAGCGT ATTTTGAAAT ATGGCGTAGC   900

TATCCAGGTA ATACAATACA ACCCAGCTAA TGATGTCATC GTTCCACGCA AACAGCAAAA   960

AGAAAAGGCT GCTGTCAAAT ACTTAGACAA CAAAGAATTA AAACAGTTTC TTGATTATTT   1020

AGATGCTCTG GATCAATCAA ATTATGAGAA CTTATTTGAT GTTGTTCTGT ATAAGACTTT   1080

ATTGGCCACT GGGTTGCCGTA TTAGTGAGGC TCTGGCTCTT GAATGGTCTG ATATTGACCT   1140

AGAAAGCGGT GTTATCAGCA TCAATAAGAC ACTAAACCGC TATCAGGAAA TAAACTCACC   1200

TAAATCAAGC GCTGGTTATC GTGATATACC AATAGACAAA GCCACATTAC TTTTACTGAA   1260

ACAATACAAA AACCGTCAAC AAATTCAGTC TTGGAAATTA GGCCGATCTG AAACAGTTGT   1320

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GCATTTTGAT GCTGCTGGAG TAACTAACGT ATCATTTCAT GGTTTCCGCC ATACACATAC   1440

TACTATGATG CTCTATGCTC AGGTTAGCCC GAAAGATGTT CAGTATAGAT TAGGCCACTC   1500

TAATTTAATG ATCACTGAAA ATACTTACTG GCATACTAAC CAAGAGAATG CAAAAAAAGC   1560

CGTCTCAAAT TATGAAACAG CTATCAACAA TTTATAAAAA ATAAGGGTGA CCCATTTCCG   1620

GGCTACCCTC TTACTATACC AAAAATTAGT AGGGGTAGTA AAAAGGGTAT TAAATTATAA   1680

AAAGCACTAA GGGAAAGCGC CCCAAAGTGC TTATTTCAAA GGCTTTATAG CCTATAATCA   1740

CATAAAGAGA TTATTTTTTA AGGTTGTAGA ATGATTTCAA TCCACGATAT TCAGCTACTT   1800

CACCAAGTTG GTCTTCGATA CGAAGCAATT GGTTGTATTT AGCGATGCGG TCTGTACGTG   1860

418

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AAAGTGAACC AGTCTTGATT TGTCCTGCGT TAGTTGCAAC TGCAATATCA GCGATTGTTG    1920

AATCTTCAGT TTCACCTGAA CGGTGTGATA CAACAGCAGT GTAACCAGCT TCTTTAGCCA    1980

TTTCGATAGC TTCAAAAGTT TCAGTAAGAG TACCGATTTG GTTAACTTTG ATAAGGATTG    2040

AGTTAGCAGC ACCTTCTTGG ATACCACGTG CAAGGTAGTC AGTGTTTGTT ACGAAGAAGT    2100

CGTCACCAAC AAGTTGTACT TTCTTACCAA GACGTTCAGT AAGAGCTTTC CAACCATCCC    2160

AGTCGTTTTC ATCCATACCA TCTTCAATAG TGATGATTGG GTATTTGTTA ACCAATTCTT    2220

CAAGGTAGTC GATTTGTTCT GCAGATGTAC GAACAGCAGC ACCTTCACCT TCAAATTTAG    2280

TGTAGTCGTA AACTTTACGT TCTTTATCGT AGAATTCTGA TGAAGCACAG TCAAATCCGA    2340

TAAATACGTC TTTACCTGGT ACATATCCAG CAGCTTCAAT CGCAGCAAGG ATAGTTTCAA    2400

CACCATCTTC AGTTCCTTCG AAACGAGGAG CGAATCCACC TTCGTCACCT ACGGCAGTTT    2460

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TGTTGAATCC ACCAAGATAG CTGTAAAGTG GGATTTCAAG GTAGTCAGCA GCAGCACGAG    2700

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AACGAGATTT GTCACCGTCG CGAAGTTCAA CTGCTTCGTG TTCACCAGTA GAAGCTCCTG    2940

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TGTCTGTTTT ATTCTAACTT TTATGATATA CTGTTTTCAT GACAGATTTA TCAAAACAAT    3240

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GTACTTTTGA GGAAAGAGTT CTTGGATATG TAGATATTGA CACAGCAAAT AGCCCTCAGT    3360

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TGAAGATTTC ACCAACTATC GAATTTGATA AGCAAGTTTT CTACTTAAAA GAAGCAAAAG    3480

AAACTGATAG TCAAGCCACC ATAGTATCTG AAGAGCATAT TACTTCTCCT TTTGGCCTGG    3540

TTATTCATAG CAATGCACCA GTTCAAGTAG AAGAAAAAGA CCTTCGACTT GCTTTTCCAA    3600

AACTTTGGGA AGTTAAAAAG GAAGAACCAG CCAAAACATC CTTATGGAAG AAATGGTTTA    3660
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419

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GCTAAATCTT GCACATATTT AATAAGTGCC CAATATTGGC AGCCGTGCGC TCCAGATAGA    3720

AACTGGCATT TTTCAAACTA TCTTCTAAAG GTTCACTTTT CTCCAAAATA GAAAAGACAG    3780

CTTGGATATT TTCAAATGGT AGGGGAGGTA AATCTTCAGC AAGACTACCG CAAATAGCAA    3840

TAACAGGAAC TCCAACAGGG GTTCTTTTTG CAACACCTAT AGGCGCTTTC CCAGCAAAGC    3900

TTTGACTATC AAGTCTTCCT TCTCCAACAA CAACCAAGTC AGCATCTGAA ACTTTCTTAT    3960

CAAAGTTGAT TAAGTCCAAG CAGGTATCAA TTCCAGACAC GATACTTGCC TGAGCAAAGG    4020

CACACAAACC ACCAGCAAGG CCTCCACCTG CTCCTGCTCC TTTAATTTCT AATGTTGCAG    4080

GTGAGAATTT TTCATAAAAA TCTTGGATCG CCTGATCTAC GACTGCAAAC ATAGTCGGAT    4140

GTAGACCTTT TTGATTGCCA AAAGTGTAAG TCGCACCTTG ATGACCACAT AAGGGACTCA    4200

CGACATCTGC TAAAATATGA ATTTGAACAC CTTCAGGAAT TTTATAGCAA TTTTCTGTTG    4260

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CATAAAATTG ATAACCTAAA CCAGCAGCAA TCCCCAGTCC TCCATCATTA CTGGCCGTGC    4380

CACCAACACC GATATAAATA TCTTTAATCC CTTTAGAGAT GAGATGAAGA ATCAACTCTC    4440

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TTTCCTTAAA CGAATCCGGT GCAATTACAA TCTTCATATT TTCCCTCATT CTAAACAGTC    4800

AATCAAAGGG AGAACTTCTA AAAAATCCCT CTTGTCAACA TGATGTGGTA TTTCTTTTTT    4860

GAGCACTTCT TTGGCACAAA AGGCGATTCC TAACTTCGCC GACTTCAACA TTAATAGATT    4920

ATTAACCCCA TCACCGATTG CCACCGTTCT TTCTTTAGAA AGTTTTAGTT TCTTTCTCCA    4980

TTTTTCCAGA GTCTCTTTTT TGACCTGGGG ACTTATAATT TGTCCAACTA ATTTTCCTGT    5040

TAAAAGACCT TCTTTGACTT CAAGCTAGTT GGCAGTGAAA TAGGCAATAC CAAGGGATTT    5100

TGCTAATCTC TCCAACTATT GGTGTAAATC CACCAGACAC CAGACCAACT AGGATGCCAT    5160

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CGTTATCAAA GACCAAAATA GGAAGACCTT CCAACAAGGA CACTCTTTTT CTTAAACTGC    5280

TTTCAAAGAC CAACTCTCCT CGCATTGCTC GACTTGTAAT CTGCGAAATT TCCGCCTCAT    5340

GACCTGCCTC TCTCCCTAAA AGATCAATCA CTTCTTCTAG GATTAAGGTT CCATCTACAT    5400
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420

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CCAAAACACA CAAGCCTTTT ACTTGAGACA TCAGTTCTCC TCTCTAAACA GCCTAAAAAT    5460

CGTATGAAGT CATCATACGA TTTTATCTAT TAATTAACTA AACTATGGTA CAAGTCAAGG    5520

TATGACTTGC AGGCTGTATC CCATGAGAAG TCACTCTCCA TAGCTTGTTT TTGTAGGTTT    5580

CTCCAAATGT CTGGATGGTT TCTATACAAG TCCAATGCTG TTTGGAAAGT CCAATTTAAC    5640

CAATAAGGAG ATAGATTGTC AAAGCTAAAG CCAGTACCGC TTCCTTCGAT TGGATTGAAA    5700

GCGCGAACTG TATCTCGCAA GCCTCCAACT TCATGGACCA ATGGCAAGGT TCCATAACGC    5760

ATAGCCATCA TTTGAGACAA GCCACACGGT TCAAAACGAC TTGGCATGAG GAAGAGGTCA    5820

CAAGCAGCGT AGATTTCCTG AGCAAGTTTG ACATCAAAAG TGATATTTGT TGATAGCTTG    5880

TCTGGGTAAA TCTGAGCAAA CCATGAGAAA GCTCCTTCAA AGGCTGGATC GCCAGTTCCC    5940

AAAAGAACAA TCTGAACATC TTCTTGCAAG ATATGGTGAA GACTTTCGAC CACCACATCA    6000

AAACCTTTTT GACGTGTCAA ACGAGAAACA ATTCCCACCA GTGGAACGTC TGCTCTAACA    6060

GGCAAGCCAA CTCTTTCTTG CAATTTTGCC TTATTTTTGG CTTTCCCAGA CAAATCTTCC    6120

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CCACAACTGG ATGTTCTGCA GTTCCTCGAA TCACAACACC ATGCTCAACT TCAACCCCTT    7020

TGTCCAAGAT AGCATATTCG ACCTGAGCCC CTTCTCCAAT AACAACACGA GGGAAGAGCA    7080

GGCTATCTTT AACCAAGCTA TCCTTATGGA CATGAATATT ACGTGATAGA ACAGAATTAG    7140

CTACTTGACC TTCAATAATA CTACCAGAGG CAAACTGAGA AGTGCTTACC TTAGATGTAT    7200
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421

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TAGCATAGTA AGTTGGCTCT TCGTTTTTGA CCTTTGTATA AATCTTTTGG TTTGGTGAGA      7260

AAAGAGAATA GAATTTTTGT GATTCAAGCA TATCGATATT CGCTTGATAA TAAGATTTAA      7320

CAGAGTGAAT ATTGGCTAGA TAGCCCGTGT ACTCGTAGGC GAAAGCTCCC TCTTTTACAG      7380

CCAAATCCCG TAAAACATAG CGCAATTTCT CTGGATGTTC TTTTTTAGCT TCTTCTTCCA      7440

AGTGTTCAAT CAACCAAGGT GTATCAACGA CAAAGATATC TGTAGACATA TTGAACGTTT      7500

CAGCTGTTGA CTTGCTATCA AAGAGTTTAT GAGAAAGAAC ATGGTCTGTT TCATCTACAT      7560

CCAAGATTGC ATTTACTTCT GAAATATCTT TCTTAGCTAG TTTTTTATAA ACTACAGTGA      7620

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GTTGGTAGTA TTCTTTTCCA ACTGTACTAC TTTCTACACG GGTATTGTAA ATTCCTAGAT      7800

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GGCTTGAAAG TGGGAAGTCA ATCAAACGAT ATTTCCCACC AAATGGCAAA CTTGCTACTG      7980

GACGGTGGTC CGTCAATGTC GACATATTGT GAAAACCAAC TGTATTTCCT AAAATGGCAG      8040

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ACTTCCGCTC CTTCGCGAAC TTGCGCGCCT GTTGAAAGGA TAGAATGTTT AACAGTTCCA      8280

TCAACGAAAC ATCCGTCTAC AACTAATGAG TCTTCCACAT GAGCATTTGC CCCGAGGAAG      8340

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GGAATGACAT TTTTACCAAA GTCTGACATG CCAACCTTGC TCTTTTCAGC AGCGACTAAC      8580

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GGTTGAGCTG GTTTTTCTTC AAATTCAACA ATACGATTGT TAGCATCTGT GTTCATGATA      8700

CCAAAACGGC TTGCTTCTTT AAGAGGGACG TCTAAAACTG CTACTGTCAA GCTGGCATTA      8760

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AAAATCAAGA CATACTCAGG ATTGACACTG TCGATATAGT CGATATTTTG GTAAATAGCG      8880

TGACTAGTCC CCTCAAACCA ACGATTTCCT TCACTTGCAG AATAAGGTTG AAGAATAGAG      8940
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422

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ACACCTGAAT TAATACCGTC TAGTCCCCAG CTTGAACCAT TCCCAATATG GTTGTTGAGA    9000

GCAAGTGGTT GATACTGTGT AACGACCCCA ACATTGTGAA TCCCTGAGTT GGCACAGTTT    9060

GATAGGGCAA AGTCAATGAT ACGGTAGCGC CCACCAAATT GCACAGCTGG TTTTGCGATG    9120

CTTTGAGTGA GTTTACCGAG ACGAGTTCCT TGCCCACCAG CAAGAATCAA AGCTAACATT    9180

TCATTTTTCA TTTTCTACTC CTTTTTGGTT TTTATTTGTG ACGGTTTTAG TAGATTTCAA    9240

GCGACGTTTG ATTTTCCATA CACTTGCTCC CATAGCCGGT AGGGTAAAGG TTAAGGTCTG    9300

CTCATAATCT TTCCATAGTC CTTCTTGCGT TTGAACAGTT TGATTATGTT CTTTCCAAAC    9360

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GAGCAATTTC TTACCAGGGT GACAAATTTG GTACGTATAG AGATTGCGCA AGCCTGCGAA    9780

TTGATTGTAA CGATCTCCCC ACATCTTATG CATCATACTC TTCTTGCCAT GAACCACTTC    9840

ATCGTGCGAG AATGGCAAGA GATAATTCTC CTTGAAAACA TACATAAAGC TGAAAGTCAC    9900

CAGGTTAAAG TCATATTTAC GATAGATCGG ATCTTCTTCG TAGAAACGGA GGATATCATT    9960

CATCCAGCCC ATGTTCCATT TGTAGTCAAA TCCTAGACCA CCAATCTCTT TCATTCCCGT   10020

AATCTTGATC GCAGACGAAC TTTCTTCTGC AATCATCATC ACATCTGGAT ATTCTAACTT   10080

AATAACCTCA TTCAAGCGCT GAAGGAAATA ATAACCTTCA TAGTTGAGAT TTCCGCCATC   10140

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CACACGAATA CCATCCAAAT GATAGACATC AATCCAATGC TTAATGCAAG AAATTAAGAA   10260

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TCCTCGACAA AATCTTGAAA CTCCTCTGGT CGGCCATAAG CATGCTCTAA AGCGAAGTAA   10500

CCCATAAGCT GATACCCCCA ACTCAAGCCC AAAGGATGGG ACATCAAGGG CATAAACTCA   10560

ATATGAGTAT AGTTCATTTC AACGAGATAA GGAATGAGTT CATCCTTGAG CTGGGCAAAA   10620

CTATAAGGAC TGCCATCAGA ATTTCTTTTC CATGATCCAG CGTGAACTTC ATAAATATTG   10680

ACAGGACGCT CTTCAAAGCC CCAACGTTTT CTTCGTGCCA GCCAAAGTCC ATCCTTCCAT   10740
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423

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TTCTTCTCAG GAAGCTCTGT TACGATTGCC CCTGTTCCTG GACGAGCCTC ATACCTGACA   10800

GCAAAAGGGT CAATCTTCAT CAGTTGATGA CCATTTTGAC GTGTGACATG ATATTTGTAA   10860

ATATGCCCTT CTTGAGCCAT ATTGGTAAAG ACTTCCCAGA CCCCAAAATC ATTTCTTACC   10920

ATTGGAATCT GATTTTCAAT CCAGTTGGTA AAATCACCAA CCAAGTGAAC AGCCTGAGCA   10980

TTAGGTGCCC AAACACGGAA GGTATAGCCA TGCTCTCCAT TTAGTTCTTC CCTATGTGCT   11040

CCTAGATAAT GTTGGAGATA AAAATTTTCA CCCGTCATAA AGGTTTTTAA TGCTTCTCTA   11100

TTATCCATAT ACTCCCCTTC TCCTGTAAGC GTTTTCTATG TTTTTATTAT ACTACCTTTT   11160

TAGAGAAGAT TCAAGTAAAT TACTATACTT CTTTAATTAT TTTGAAAATC TACAACAAGT   11220

TCACTTACTC GTTCAATTGT AAATCAATAT TTTTTCAAAA AATTGCGAAA ACGCCTTTCT   11280

TTTTCTACTA TAGTGAAATG AAATAAAACA TGCGCAAATC GATTAAGGAA TTTAATCTAA   11340

TTTCTAACAA TGTCTTAGAA ATCAAAGTGT ACTATTTTAA CTCC                    11384
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(2) INFORMATION FOR SEQ ID NO: 46:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 7577 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 46:

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TGTTGATTTG TTACTAGACG TTGACCAACG TCCTTCGGCT GGAAAAGGAA TTCTCCTTAG     60

TTTCCAACAC GTTTTCGCCA TGTTTGGTGC GACCATCTTG GTACCATTGA TTTTGGGAAT    120

GCCTGTATCT GTTGCCCTTT TTGCTTCAGG TGTTGGAACA CTCATCTACA TGATTGCTAC    180

TGGTTTTAAA GTTCCAGTTT ATCTAGGTTC TTCATTTGCC TTTATCACAG CTATGTCACT    240

GGCTATGAAA GAAATGGGGG GGGATGTATC TGCTGCCCAA ACAGGGGTTA TCTTGACTGG    300

TTTGGTCTAT GTCCTTGTTG CTACCAGCAT CCGATTTGTA GGAACAAAAT GGATTGATAA    360

ACTCTTGCCA CCAATCATTA TCGGTCCTAT GATCATCGTT ATCGGTCTTG GACTTGCAGG    420

TTCAGCTGTT ACCAATGCAG GTCTTGTAGC AGACGGAAAT TGGAAAAATG CTCTGGTAGC    480

CGTTGTTACT TTCCTAATTG CTGCCTTTAT CAATACAAAA GGAAAAGGCT TCCTACGAAT    540

CATTCCATTC CTCTTTGCCA TTATCGGTGG TTACCTTTTC GCACTAACTC TTGGCTTGGT    600

TGACTTTACA CCAGTTCTTA AAGCCAACTG GTTCGAAATT CCTGGTTTCT ACTTGCCATT    660

TAGCACAGGT GGTGCCTTTA AAGAGTACAA TCTTTACTTT GGTCCAGAAG CCATCGCTAT    720
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424

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CTTGCCAATC GCTATCGTAA CAATTTCTGA ACATATCGGA GACCATACTG TTTTGGGTCA      780

AATCTGTGGT CGTCAATTCT TAAAAGAACC AGGTCTTCAC CGTACTCTTC TTGGTGACGG      840

TATCGCAACT TCTGTTTCTG CCTTCCTTGG TGGACCAGCC AATACAACTT ACGGAGAAAA      900

TACAGGGGTT ATCGGTATGA CTCGTATCGC TTCTGTCTCA GTTATCCGTA ACGCTGCCTT      960

CATCGCGATT GCCCTCAGCT TCCTTGGTAA ATTCACTGCC TTGATTTCAA CTATTCCAAA      1020

CGCTGTACTT GGTGGTATGT CAATCCTTCT CTATGGGGTT ATCGCCAGCA ATGGTTTGAA      1080

AGTCTTGATT AAAGAACGTG TTGATTTCGC TCAAATGCGA AACCTCATCA TCGCAAGTGC      1140

TATGTTGGTT CTTGGACTTG GAGGAGCTAT CCTTAAACTT GGTCCAGTTA CACTTTCAGG      1200

TACTGCCCTT TCAGCCATGA CAGGAATCAT CTTGAACTTG ATCTTGCCAT ACGAAAATAA      1260

AGACTAAGAG TCTAAATACA CCTAATCCAC TCAGACAGCT GAGTGGATTT TTCGTATACC      1320

ATAATAAAAG TGTCTTAACA AAATTATTAA AATCAAAAAA CGTATAATAT CAGATATTCT      1380

AAAACCTTGA TACTGTACGT TTTATCATAG AAATTTTTAC TTTATTTTCT CATCAAATGA      1440

GATTTGCATC AATCTCTTGT CTTACTTGCG TTTCTTCTTC GCTTTCTTCA TTTTGTTAGC      1500

CATACGTTTC ATGGACTGTT TCATGGCAAA TTCACCAATT TTACCTTTCA AACCGCCACC      1560

AAACATCTGG CTCATATCTG GCATTCCTGC TCCTCCGAGA GCTGATAAGT CAGGCATACC      1620

GCCTTGTCCC ATCATTCCTT CAAGGGCAGA CATATCCATT CCTCCCATAT TTGGCATATT      1680

TTTAGGAAGG TTATTTGGAT TAATCCCCAT TTGCTTCATC ATTTTATTCA TATCCCCAGA      1740

CATAACACCC TGCATGAGCT GTTTAGCCTG GTTAAAGTCC TTGATGAATT TATTGACTTC      1800

GACGAATGTA TTTCCAGAAC CAGCAGCAAT ACGACGGCGA CGGCTTGGAT TTAACAAATC      1860

TGGGTTTTCA CGCTCTTCAG GTGTCATCGA AGACACAATG GCACGTTTAC GAGCAATCTG      1920

GCGTTCATCC ACCTTCATGT TTTGAAGGGC TGGATTGTTG GCCATACCTG GAATCATCTT      1980

GAGCAAGTCT TCCATCGGCC CCATATTTTG CACCTGATCT AATTGATCGA TGAAATCATT      2040

AAAATCAAAG GTGTTTTCGC GCATCTTCTC AGCCATTTCA AGGGCTTTTT GTTCATCGTA      2100

TTCCTGAGAA GCTTTCTCAA TCAAAGTGAG CATATCCCCC ATACCAAGGA TACGGCTAGA      2160

CATGCGGTCT GGGTGGAAGG TTTCAATGTC CGTAATCTTT TCACCTGTAC CAGTGAACTT      2220

GATTGGTTTT CCAGTAATGT GACGAACAGA CAGAGCAGCA CCACCACGAG TATCGCCATC      2280

AATCTTGGTA AGGATGACCC CAGTCACTTC CAACTGAGCA TTAAACTCAC GCGCAACATT      2340

GGCTGCTTCC TGACCAATCA TAGCATCAAC GACAAGCAAG ATTTCATTTG GTTGAGCCAA      2400

TGCTTTCACA TCACGAAGCT CATTCATGAG GAGCTCATCA ATCTGCAAAC GACCCGCAGT      2460

ATCAATCAAG ACATAGTCGT TATGATTAGT TTGGGCTTGC TCCAAACCTT GACGTACAAT      2520
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425

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CTCAACAGCT GGTACTTCTG TTCCAAGTGC AAAGACAGGC ACATCAATCT GTTGTCCCAA    2580

GGTCTTAAGC TGGTCAATGG CAGCTGGACG ATAAATATCC GCCGCAATCA TCAAAGGACG    2640

AGCATTTTCT TCTTTCTTGA GTTTGTTGGC CAATTTACCA GCAAAGGTTG TTTTACCAGC    2700

CCCTTGTAAA CCAACCATCA TGATGATGGT TGGAATCTTA GGTGACTTGA TAATTTCTGC    2760

CGTATCAGAA CCTAAAACGG CTGTCAATTC CTCATCAACG ATTTTAATAA TCTGTTGCGC    2820

AGGATTAAGT GTATCAATGA CCTCATGCCC GACTGCACGC TCACGAACTT TCTTGATAAA    2880

GTCCTTTACA ACAGGCAAGG CAACGTCGGC CTCGAGCAAG GCCAAGCGAA TTTCTTTGGT    2940

TGCCTCTTGG ACATCAGATT CAGAGATTTT TCCTTTTTTA CGTAGATTTT TAAAGACGTT    3000

CTGCAAACGT TCTGTTAAAC TTTCAAATGC CATTTTTCTT CCTCTTATTC TCTATTATCA    3060

ATGCTTGTTA AAATTTCTAT CTGCTCCTGC AGAAAGTCAT CCTTGGGATA GCGCTCCAAA    3120

ATCTGATCAA AAATCTGACT GCGGACAATA TAGTCCGAGT ACATGTGCAA TTTCATCTCA    3180

TAATCTTCCA GAATCTTTTC TGTTCGCTTG ATATTGTCAT AGACAGCCTG ACGACTGACA    3240

CCGAACTCCT CGGCAATTTC AGCAAGGCTG TAATCATCAG CGTAGTAGAG CTCGATATAA    3300

TTCATTTGCT TATCTGTCAA AAGCGCCGCA TAAAATTCAA AGAGCGCATT CATACGATTG    3360

GTTTTTTCGA TTTCCATAAC TTTTATTATA CCAAAAATTA GCCTAATCTA CCACACTAGG    3420

AAGCCGATCC AAGAAGATAG ATAGCTAAAT TTGAAAAAGA CATGAGCCTA GCCCCAAGTA    3480

ATTTCCAATT GATAGCTGGC AAAGGGATGT CCCTCTTGAT TTTGTAGTTG ATAATCTAGT    3540

TCAATCTTTT GCCTATCAAC TTGATAATGG CTCGTTTGGA TGATAAACTC CTGCATGCCC    3600

ATAGGTGTAG GAATATAGGC TAAACTATCG CTATCCTTTA GAAAGCGCAT AATGGTCTTG    3660

GGATTAGAAA ATCGGCTCAT CACAAGTTCT TGACCATGAA ATTTAATCAC TACTTTTTCC    3720

TTTTCCTCAT TATAGAAAAG CAGGTAGCTA TAATCTCCTT TTTCATGCAC TTCCACATCA    3780

TAAAGCTGGT CAATCACTTC CAACTGCTCA TCAAACTGAA TCGTATTTCG CATCCGAATC    3840

TTCACATCAG GCCCTCTTTC TTGTCTCTTG TCCTACTATT TTACCAAAAA GAGCAGGATT    3900

TTGCTATAAT GGTCATATGA ACGAAAAAGT ATTCCGTGAC CCTGTTCACA ACTACATCCA    3960

TGTCAATAAT CAAATCATCT ATGACTTGAT TAATACAAAA GAATTTCAGC GTTTGCGCCG    4020

GATCAAACAA CTGGGAACTT CCAGTTATAC CTTCCACGGT GGAGAACACA GTCGCTTCTC    4080

TCACTGTCTA GGAGTCTATG AAATTGCACG ACGCATCACA GAGATTTTCG AAGAAAAATA    4140

TCCTGAGGAA TGGAATCCTG CCGAGTCTCT CTTGACCATG ACCGCTGCTC TCCTACACGA    4200

CCTTGGGCAT GGTGCCTACT CCCATACTTT TGAACATCTC TTTGATACAG ACCATGAAGC    4260
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426

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CATTACTCAG GAGATTATTC AAAATCCTGA GACAGAGATT CACCAAGTCC TGCTACAAGT      4320

GGCACCTGAT TTCCCAGAAA AGGTGGCCAG TGTCATTGAC CATACCTATC CTAATAAGCA      4380

GGTCGTGCAG CTCATTTCTA GTCAGATTGA CGCAGATCGC ATGGACTATC TCTTGCGCGA      4440

CTCCTATTTT ACAGGAGCAT CCTATGGGGA ATTTGACCTG ACTCGAATCC TCCGAGTCAT      4500

TCGTCCTATC GAAAATGGTA TCGCCTTTCA GCGCAATGGC ATGCACGCCA TCGAAGACTA      4560

CGTCCTCAGT CGCTACCAGA TGTACATGCA GGTTTATTTC CACCCCGCAA CACGCGCCAT      4620

GGAAGTTCTC CTACAGAATC TTCTCAAACG CGCCAAGGAA CTCTATCCTG AGGACAAGGA      4680

TTTCTTTGCC CGAACTTCTC CACACCTCCT GCCTTTCTTC GAAAAAAATG TGACCTTGAC      4740

TGACTATCTG GCTCTGGATG ATGGCGTGAT GAATACCTAC TTCCAGCTTT GGATGACCAG      4800

TCCTGACAAG ATTCTTGCAG ATTTATCGCA TCGCTTTGTC AACCGCAAGG TCTTTAAATC      4860

CATTACCTTT TCACAAGAGG ACCAAGATCA ACTTACTAGC ATGAGAAAAT TGGTTGAGGA      4920

TATCGGCTTT GATCCCGACT ACTACACTGC CATTCATAAG AACTTTGACC TCCCTTATGA      4980

TATCTATCGT CCCGAATCTG AAAACCCACG GACACAGATT GAGATTTTAC AAAAAAATGG      5040

AGAACTGGCC GAACTCTCTA GCCTGTCTCC TATCGTCCAA TCCCTTGCTG GCAGTCGCCA      5100

CGGAGATAAT CGCTTTTATT TTCCAAAAGA AATGTTGGAC CAAAACAGCA TCTTTGCAAG      5160

CATTACCCAG CAATTTTTAC ACTTGATTGA GAACGATCAT TTTACCCCAA ATAAAAACTA      5220

GAAGAGGAAA TTTATGAGTA TTAAACTAAT TGCCGTTGAT ATCGACGGAA CCCTTGTCAA      5280

CAGCCAAAAG GAAATCACTC CTGAAGTTTT TTCTGCCATC CAAGATGCCA AAGAAGCTGG      5340

TGTCAAAGTC GTGATTGCAA CTGGCCGCCC TATCGCAGGC GTTGCCAAAC TTCTAGACGA      5400

CTTGCAGTTG AGAGACGAGG GGGACTATGT GGTAACCTTC AACGGTGCCC TTGTCCAAGA      5460

AACTGCTACA GGACATGAGA TTATCAGCGA ATCCTTGACT TATGAGGATT ATCTAGATAT      5520

GGAATTCCTC AGTCGCAAGC TCGGTGTCCA CATGCATGCC ATTACCAAGG ACGGTATCTA      5580

TACTGCAAAT CGCAATATCG GAAAATACAC TGTACACGAA TCAACCCTCG TCAGCATGCC      5640

TATCTTCTAC CGTACCCCTG AAGAAATGGC TGGCAAAGAA ATTGTTAAAT GTATGTTTAT      5700

CGATGAACCA GAAATTCTCG ATGCTGCGAT TGAAAAAATT CCAGCAGAAT TTTACGAGCG      5760

CTACTCCATC AACAAATCTG CTCCTTTCTA CCTCGAACTC CTTAAAAAGA ATGTAGACAA      5820

GGGTTCAGCC ATTACTCACT TGGCTGAAAA ACTCGGATTG ACCAAAGATG AAACCATGGC      5880

AATCGGTGAT GAAGAAAATG ACCGTGCCAT GCTGGAAGTC GTTGGAAACC CCGTTGTCAT      5940

GGAAAATGGA AATCCAGAAA TCAAAAAAAT CGCCAAATAC ATCACCAAAA CAAATGACGA      6000

ATCCGGCGTT GCCCATGCCA TCCGAACATG GGTACTGTAA AAGTATCATT TTTCAATAAG      6060
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427

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AATTGATTAG CAATAAAATC CAATGAATTT TTTTAGCAAA CTATTTAATT TAAAACAAAA    6120

TAATCATAAT AGAGACACAA ATTCTGATTG TAACAATTTT TACCTAAACG AATTAGAATG    6180

TGGCCTTACT CCTGGGCAAC TCATACTCAT AGATTGGACT CAAAAAACAG GGAGAAATTA    6240

TAATTTCCCA AGATATTTTA AATACTCTCT TCAAATTGAC CCTGAATCTA CACACAATCA    6300

ATTATACAAA TTAGGATACT TCACTAAAAA TAAGACTTTA TCATATCTTA CAGTAGTAGA    6360

ATTAAAAACT ATATTATCTA AACATAATTT AGCTACTTCT GGAAAAAAAG CAGAATTAAT    6420

TACAAGAATA ATTAATAATG TTAACATTGA CAATTTAGAT ATTCCGTTCG AATTTAAACT    6480

AACAAAAGAA GCACAAAATC TTATTATCGA ACATAGTGAC TATATCAAAG CATACTATGA    6540

TAAAGACATA ACTATGGAAG ATTATTGTAA AGAAAAAAAC AATATCTCTT TTAAAGCAAC    6600

TTTTGGTGAT ATAAAATGGA GTCTCTTAAA TAAACAAGCT CATAGGAATA CTGTATCAGG    6660

AGATTTTGGA TGCTTATCTA ACACACGAAA GGCTCAGGGA AGACATTTGG AACAAGAAGG    6720

TAATATTAAA CATGCTTTAA TATATTACAT AGAATCTTTG ATAATTACTA TTTCAGGATT    6780

AGAAACAAT TTTTCAGCCA CTGATTATCC AGTATATTAT CCCGATTCGA TACCTGACTA    6840

CTCACTAAAA CATATTCAAA CATTAATGGA ATCATTATCT GATGACGATT ATGATTTTGC    6900

TTTTGATGAA GCATTATTTC GCTTCTCAAT TTTGAATGCA AATCATTTTT TATCTAAGGA    6960

AGATATTGAC TATTTAAGAG TTAATTTACC TCGTTCCACT GCTGAAGAAA TAAACAATTA    7020

CTTAAAGAAA TATGAATGTT ATAGTCCTTT AAATAATTTA GAACTTGACG ATTTTGAATA    7080

AATTGACTAT ACAAACATTT ATATACTCGA TATAGTCTCA ATTTTATCTG ATGATTGCCC    7140

AAATTTTTCA ATAATAAAAC GCATAATATT ATGGAGACAA TCCCCTATAT TATGCGTTCT    7200

TTTAATATCA AAGACTTTTT GACAAACTTC TTTGATATCT AATTACATGC CCCCTGCAGG    7260

AATCGAACCT GCAACTACTC CTTAGGAGGG AGTTGTTATA TCCATTGAAC TAAGGGAGCT    7320

AGATAAAAAC TCTGCTAAAT GAGCAGAGTT TTTTAGTCGA ATTAACGACG GATTTCTTTG    7380

ATACGAGCTG CTTTACCTTG AAGAGCACGC AAGTAGTACA ATTTCGCACG ACGTACTTTA    7440

CCGTAACGAA CAACTTCGAT TTTTTCAACA CGTGGAGTGT GGATTGGGAA GATACGCTCA    7500

ACACCTACAC CGTTAGAGAT TTTACGAACT GTGTAGTTTT CTGAGATTCC AGCACCTTTA    7560

CGTGCGATAA CAACACG                                                   7577
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(2) INFORMATION FOR SEQ ID NO: 47:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4945 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double

428

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 47:

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CCTCGCTGAT GATTGGTGCT GTTTTATTTG CTGGTCCAGC CTTGGCTGAA GAAACTGCAG        60

TTCCTGAAAA TAGCGGAnCT AATACAGAGC TTGTTTCAGG AGAGAGTGAG CATTCGACCA       120

ATGAAGCTGA TAAGCAGAAT GAAGGGGAAC ATGCTAGAGA AAACAAGCTA GAAAAGGCAG       180

AAGGAGTAGC GATAGCATCT GAAACTGCTT CGCCAGCAAG CAATGAAGCT GCAACTACTG       240

AAACTGCAGA AGCAGCTAGC GCAGCTAAAC CAGAGGAAAA AGCAAGTGAG GTGGTTGCAG       300

AAACACCATC TGCAGAAGCA AAACCTAAGT CTGACAAGGA AACAGAAGCA AAGCCCGAAG       360

CAACTAACCA AGGGGATGAG TCTAAACCAG CAGCAGAAGC TAATAAGACT GAAAAAGAAG       420

TCCAGCCAGA TGTCCCTAAA AATACAGAAA AAACATTAAA ACCAAAGGAA ATCAAATTTA       480

ATTCTTGGGA AGAATTGTTA AAATGGGAAC CAGGTGCTCG TGAAGATGAT GCTATTAACC       540

GCGGATCTGT TGTCCTCGCT TCACGTCGGA CAGGTCATTT AGTCAATGAA AAAGCTAGCA       600

AGGAAGCAAA AGTTCAAGCC TTATCAAACA CCAATTCTAA AGCAAAAGAC CATGCTTCTG       660

TTGGTGGAGA AGAGTTCAAG GCCTATGCTT TTGACTATTG GCAATATCTA GATTCAATGG       720

TCTTCTGGGA AGGTCTCGTA CCAACTCCTG ACGTTATTGA TGCAGGTCAC CGTAACGGGG       780

TTCCTGTATA CGGTACACTC TTCTTCAACT GGTCTAATAG TATTGCAGAT CAAGAAAGAT       840

TTGCTGAAGC TTTGAAGCAA GACGCAGATG GTAGCTTCCC AATTGCCCGT AAATTGGTAG       900

ACATGGCCAA GTATTATGGC TATGATGGCT ATTTCATCAA CCAAGAAACA ACTGGAGATT       960

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CTAAGGTAAA CCATCCAATC AAGTATTCTT GGTACGATGC CATGACCTAT AACTATGGAC      1080

GTTATCATCA AGATGGTTTG GGAGAATACA ACTACCAATT CATGCAACCA GAAGGAGATA      1140

AGGTTCCGGC AGATAACTTC TTTGCTAACT TTAACTGGGA TAAGGCTAAA AATGATTACA      1200

CTATTGCAAC TGCCAACTGG ATTGGTCGTA ATCCTTATGA TGTATTTGCA GGTTTGGAAT      1260

TGCAACAGGG TGGTTCCTAC AAGACAAAGG TTAAGTGGAA TGACATTTTA GACGAAAATG      1320

GGAAATTGCG CCTTTCTCTT GGTTTATTTG CCCCAGATAC CATTACAAGT TTAGGAAAAA      1380

CTGGTGAAGA TTATCATAAA AATGAAGATA TCTTCTTTAC AGGTTATCAA GGAGACCCTA      1440

CTGGCCAAAA ACCAGGTGAC AAAGATTGGT ATGGTATTGC TAACCTAGTT GCGGACCGTA      1500

CGCCAGCGGT AGGTAATACT TTTACTACTT CTTTTAATAC AGGTCATGGT AAAAAATGGT      1560

TCGTAGATGG TAAGGTTTCT AAGGATTCTG AGTGGAATTA TCGTTCAGTA TCAGGTGTTC      1620
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429

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TTCCAACATG GCGCTGGTGG CAGACTTCAA CAGGGGAAAA ACTTCGTGCA GAATATGATT      1680

TTACAGATGC CTATAATGGC GGAAATTCCC TTAAATTCTC TGGTGATGTA GCCGGTAAGA      1740

CAGATCAGGA TGTGAGACTT TATTCTACTA AGTTAGAAGT AACTGAGAAG ACCAAACTTC      1800

GTGTTGCCCA CAAGGGAGGA AAAGGTTCTA AAGTTTATAT GGCATTCTCT ACAACTCCAG      1860

ACTACAAATT CGATGATGCA GATGCATGGA AAGAGCTAAC CCTTTCTGAC AACTGGACAA      1920

ATGAAGAATT TGATCTTAGC TCACTAGCGG GTAAAACCAT CTATGCAGTC AAACTATTTT      1980

TCGAGCATGA AGGTGCTGTA AAAGATTATC AGTTTAACCT AGGACAATTA ACTATCTCGG      2040

ACAATCACCA AGAGCCACAA TCGCCGACAA GCTTTTCTGT AGTGAAACAA TCTCTTAAAA      2100

ATGCCCAAGA AGCGGAAGCA GTTGTGCAAT TTAAAGGCAA CAAGGATGCA GATTTCTATG      2160

AAGTTTATGA AAAAGATGGA GACAGCTGGA AATTACTAAC TGGCTCATCT TCTACAACTA      2220

TTTATCTACC AAAAGTTAGC CGCTCAGCAA GTGCTCAGGG TACAACTCAA GAACTGAAGG      2280

TTGTAGCAGT CGGTAAAAAT GGAGTTCGTT CAGAAGCTGC AACCACAACC TTTGATTGGG      2340

GTATGACTGT AAAAGATACC AGCCTACCAA AACCACTAGC TGAAAATATC GTTCCAGGTG      2400

CAACAGTTAT TGATAGTACT TTCCCTAAGA CTGAAGGTGG AGAAGGTATT GAAGGTATGT      2460

TGAACGGTAC CATTACTAGC TTGTCAGATA AATGGTCTTC AGCTCAGTTG AGTGGTAGTG      2520

TGGATATTCG TTTGACCAAG CCACGTACCG TTGTTAGATG GGTCATGGAT CATGCACGAG      2580

CTGGTGGTGA GTCTGTTAAC GATGGCTTGA TGAACACTAA AGACTTTGAC CTTTATTATA      2640

AAGATGCAGA TGGTGAGTGG AAGCTAGCTA AGGAAGTCCG TGGTAACAAA GCACACGTGA      2700

CAGATATCAC TCTTGATAAA CCAATCACTG CTCAAGACTG GCGCTTGAAT GTTGTCACTT      2760

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TTGATACTGA GAGTGTCAAT ATTCCGATGG CCAAGGCTGC AGCCCGTTCT CTAGGCAATA      2880

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ATCCAAATTC TCAAACTCCG CTCGCAACCT TGAAGAGCGA AGTTGGAGGA GACCTAGCAA      3000

GTGCACCATT GGATTTGACA AATCAATCTG GTCTTCTTTA TTATCGTACC CAGTTGCCAG      3060

GCAAGGAAAT TAGTAATGTC CTAGCAGTTT CCGTTCCAAA AGATGACAGA AGAATCAAGT      3120

CAGTCAGCCT AGAAACAGGA CCTAAGAAAA CAAGCTACGC CGAAGGGGAG GATTTGGACC      3180

TTAGAGGTGG TGTTCTTCGA GTTCAGTATG AAGGAGGAAC TGAGGACGAA CTCATTCGCC      3240

TAACTCACGC AGGTGTATCA GTATCAGGTT TTGATACGCA TCATAAGGGA GAACAGAATC      3300

TTACTCTCCA ATATTTGGGA CAACCGGTAA ATGCTAATTT GTCAGTGACT GTCACTGGCC      3360
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430

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AAGACGAAGC AAGTCCGAAA ACTATTTTGG GAATTGAAGT AAGTCAGGAA CCGAAAAAAG    3420

ATTACCTAGT TGGTGATAGC TTAGACTTGT CTGAAGGACG CTTTGCAGTG GCTTATAGCA    3480

ATGACACCAT GGAAGAACAT TCCTTTACTG ATGAGGGAGT TGAAATTTCT GGTTACGATG    3540

CTCAAAAGAC TGGTCGTCAA ACCTTGACGC TTCATTACCA AGGCCATGAA GTTAGCTTTG    3600

ATGTTTTGGT ATCTCCAAAA GCAGCATTGA ACGATGAGTA CCTCAAACAA AAATTAGCAG    3660

AAGTTGAAGC TGCTAAGAAC AAGGTGGTCT ATAACTTTGC TTCATCAGAA GTAAAAGAAG    3720

CCTTCTTGAA AGCAATTGAA GCGGCCGAAC AAGTGTTGAA AGACCATGAA ACTAGCACCC    3780

AAGATCAAGT CAATGACCGA CTTAATAAAT TGACAGAAGC TCATAAAGCT CTGAATGGTC    3840

AAGAGAAATT TACGGAAGAA AAGACAGAGC TTGATCGCTT AACAGGTGAG GTTCAAGAAC    3900

TCTTGGCTGC CAAACCAAAC CATCCTTCAG GTTCTGCCCT AGCTCCGCTT CTTGAGAAAA    3960

ACAAGGCCTT GGTTGAAAAA GTAGATTTGA GTCCAGAAGA GCTTACAACA GCGAAACAGA    4020

GTCTAAAAGA TCTGGTTGCT TTATTGAAAG AAGACAAGCC AGCAGTCTTT TCTGATAGTA    4080

AAACAGGTGT TGAAGTACAC TTCTCAAATA AAGAGAAGAC TGTCATCAAG GGTTTGAAAG    4140

TAGAGCGTGT TCAAGCAAGT GCTGAAGAGA AGAAATACTT TGCTGGAGAA GATGCTCATG    4200

TCTTTGAAAT AGAAGGTTTG GATGAAAAAG GTCAAGATGT TGATCTCTCT TATGCTTCTA    4260

TTGTGAAAAT CCCAATTGAA AAAGATAAGA AAGTTAAGAA AGTATTTTTC TTACCTGAAG    4320

GCAAAGAGGC AGTAGAATTG GCTTTTGAAC AAACGGATAG TCATGTTATC TTTACAGCAC    4380

CTCACTTTAC TCATTATGCC TTTGTTTATG AATCTGCTGA AAAACCACAA CCTGCTAAAC    4440

CAGCACCACA AAACACAGTC CTTCCAAAAC CTACTTATCA ACCGACTTCT GATCAACAAA    4500

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ATACTGAGAT GCTAGTTGGG GAACAACGAG TCATCATACA GGGACGAGAT GGACTGTTAA    4620

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AAGAAGCGAT TCCAGAAATT GTTGAAATTG GAACAAAAGT AAAAACAGTA CCAGCAGTAG    4740

TAGCTACACA GGAAAAACCA GCTCAAAATA CAGCAGTTAA ATCAGAAGAA GCAAGCAAAC    4800

AATTGCCAAA TACAGGAACA GCTGATGCTA ATGAAGCCCT AATAGCAGGC TTAGCCAGCC    4860

TTGGTCTTGC TAGTTTAGCC TTGACCTTGA GACGGAAAAG AGAAGATAAA GATTAAATAT    4920

CGAAAAATCT TGTGAAATCT TTCCG                                          4945
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(2) INFORMATION FOR SEQ ID NO: 48:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 25002 base pairs
       (B) TYPE: nucleic acid

431
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 48:

GACAACTCAA GTAGCTTTTT CTTATTTTGA AAAAGGAGAT CAGAGTTTAA CTATGTCAGA   60

AAAATCACAA TGGGGGTCGA AACTTGGTTT TATTCTAGCA TCTGCTGGCT GGCCATCGGG   120

CTTGGTTCCG TTTGGAAGTT TCCCTACATG ACTGCTGCTA ATGGCGGTGG AGGCTTTTTA   180

CTAATCTTTC TCATTTCCAC TATTTTAATC GGTTTCCCTC TCCTGCTGGC TGAGTTTGCC   240

CTTGGCCGTA GTGCTGGCGT TTCCGCTATC AAAACCTTTG GAAAACTGGG CAAGAATAAC   300

AAGTACAACT TTATCGGTTG GATTGGCGCC TTTGCCCTCT TTATCCTCTT ATCTTTTTAC   360

AGTGTTATCG GAGGATGGAT TCTAGTCTAT CTAGGTATTG AGTTTGGGAA ATTGTTCCAA   420

CTTGGTGGAA CGGGTGATTA TGCTCAGTTA TTTACTTCAA TCATTTCAAA TCCAGCCATT   480

GCCCTAGGAG CTCAAGCGGC CTTTATCCTA TTGAATATCT TCATTGTATC ACGTGGGGTT   540

CAAAAAGGGA TTGAAAGAGC TTCGAAAGTC ATGATGCCCC TGCTCTTTAT CGTCTTTGTT   600

TTTATCATCG GTCGCTCTCT CAGTTTGCCA AATGCCATGG AAGGGGTTCT TTACTTCCTC   660

.AAACCAGACT TTTCAAAACT GACTAGCACT GGTCTCCTCT ATGCTCTGGG ACAATCTTTC   720

TTTGCCCTCT CACTAGGGGT TACAGTCATG TTGACCTATG CTTCTTACTT AGACAAGAAA   780

ACCAATCTAG TCCAGTCAGG AATCTCCATC GTAGCCATGA ATATCTCGAT ATCCATCATG   840

GCAGGTCTAG CCATTTTCCA AGCTCGATCC CCCTTCAATA TCCAGTCTGA AGGGGGACCC   900

AGCCTGCTCT TTATCGTCTT GCCTCAACTC TTTGACAAGA TGCCTTTTGG AACCATTTTC   960

TACGTCCTCT TCCTCTTGCT CTTCCTTTTT GCGACAGTCA CTTTTTCTGT CGTGATGCTG   1020

GAAATCAATG TAGACAATAT CACCAACCAG GATAACAGCA AACGTGCCAA ATGGAGTGTT   1080

ATTTTAGGAA TTTTGACCTT TGTCTTTGGC ATTCCTTCAG CCCTATCTTA CGGTGTCATG   1140

GCGGATGTTC ACATTTTTGG TAAGACCTTC TTTGACGCTA TGGACTTCTT GGTTTCCAAT   1200

CTCCTCATGC CATTTGGAGC TCTCTACCTT TCACTTTTTA CAGGCTATAT CTTTAAAAAG   1260

GCTCTTGCAA TGGAGGAACT CCATCTCGAT.GAAAGAGCAT GGAAACAAGG ACTGTTCCAA   1320

GTCTGGCTCT TCCTTCTTCG TTTCTTCGTT TCGTCATTCC AATCATCATC ATTGTGGTCT   1380

TCATTGCCCA ATTTATGTAA TCAAAAAGGA CTTGAGTAGT GAACTCAGGC CCTTTCTTTT   1440

TATGGATGGC TAACAATCAA TTCCAAACCT TGCCCTTCCA GAGTCCAAGC TTCAACATCA   1500

CTTGGTAGGA TAAAGTGGCT GCCTTTTTGA ATTGGATAAT TTTTCCCGTC AACAGTTAGC   1560

432

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ACATCGATGG ATTTTTCAAG ATGAAGTTCA CGCAAGTTGC CTTTGTCATC CTTGCGGTCA    1800

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433

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434

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CATTACTTTT AGTCTATTTT ACTAAAATTT AACAGAAGGG AACTGGTCAG AACAGATACA      6720

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435

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436

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437

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438

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439

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GATAGACCCT AGGATTCATG GCAAAGAGGA CAGCCAGCGC TGCTTTTTGC TTTTCCCCAC   15360

CTGATAAGTG ATGGATGAGA CGGTGCAAGA TGTCCTTGCA ACGACATTGC TGGACAACCT   15420

CTGCTATTTT AGAATCAATT TCCTGAAGGT GATAGCCGAT ATTTTCCATG GTAAAAACCA   15480

ACTCCTCAAA CAAGCTCTCC ATGGTAAATT GATGATTAGG ATTTTGCAAG AGAATACCAA   15540

CCGTCTGGAC ACGTTCGACG ATAGAAAGCT GACTGACCTC GCTCCCATCT ATCAGGACTT   15600

GACCGCTATA GGGAAGAGAA CTAACTTGGG CAATCATTTG AAAGAGGCTG GATTTTCCAG   15660

ACCCACTACT CCCAACTAAC AAGGTAAAGG CTTGCGCATG AAAAGTAAAA TCAAACGGCT   15720
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440

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CAGAGAAGAT TGGGGACTGA ATCGCTCGTA GTTCCAGACC CATCTATGCT TTTCCTCCAG    15780

TTGCAAACTG ATGATAGAGT TTGACAATGG CACGAACCAA GATGGTACAG AAGAAATAAA    15840

CAGAAATAAA ACGTACCACA AGCAAGGAAA GGACAAACGG AAGGGAAAAG GCGTAGTAAC    15900

CTAACTTAAT GTATTCATAG ACAAAGCTAA CAAGCGTAAT CCCAATACTA TTAGCAGTTA    15960

GAGAGAGCCA ACTTTCATAG CGATTCTTAG TTACGATAAA ACCAAATTCA CTTCCCAAAC    16020

CTTGAACAAA GCCAGACAAA AGAGCTCCTA GACCAAATTG GCTACCATAA AGGACTTCAG    16080

CAAGCGCAGC TAGCACTTCT CCAATCGTTG CACTTCCGAC TCTCGGAACA AAGATGGCAG    16140

CAATGGGCGC AGCCATACAC CAGAGACCGA AGAGGATTTC ATTGGCAAAG GCCTGCAAAC    16200

CAAGAGGTGT TAAGAGTAGA CTGAGAATAT TATACACATA TCCTGAACCA ACGAAAACCC    16260

CACCAAAAAA GATAGACAAG AAAGCAAGCA AGATAACATC TTTTAACTGC CATTTTTTCA    16320

ACATAAAAAA CTCCTTTTTT TAAAGAAAAG TGAGGCACTC AAGAAGACCG ACCTAAATAC    16380

TTTGTATAGC AGACTGAATT TAGAACAGTA CACAAGAACA CTAAAATATT TCTAGAAATT    16440

AATTTGAATT TTCTAATTGA TTTGTTCGCA TCTTATTTCA ATCTACTATA TCATCTTCAT    16500

CCAGTTTCGT AAAAGAAAAA ACTCTAATTA CAGATACAAA TTAGAGTTCA GCTTACAAGA    16560

TTAGACAGTT CTTTTCGACA TACGAAAAAA ACATTTCACA TTTCCCTTCG CCAGTCTTAA    16620

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CTATATCGTC ATTAACGATA AATGGAACAT TGTATTTTTT ACAAAGTTCT TTAATTTGGA    17340

TAGCTAGCTC AAGTTTTTCT AAGCCTTCTA AAGCACCCTC ACCTTTTTCT CGAAATTGAA    17400

ATAAGGTTAT ACCACCTTTT AAGGCTTCCT CAACGACTGT ATATAGATTT TTTCCTTGGC    17460

AAGTAGTCGT TCCACAAATA AAATATAGTT TTAGTAATTC TTTATGAAAC ATCTTACTTC    17520
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441

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ACTCTTTTGA ATTCCTTTAC ATCTTCATCT GTAATCTCGT ATAAGGCATT TATAAATTCA     17580

ACTTTAAATG TCCCAGGAAG ATGTCCATTT GGACGTTTTT CTGCTATTTC TCCAGCGATA     17640

TTGTAAACCA ACACTGCTGT TTTTAATGAT TTCAATTCTT GACCTTTTTC TAGTCCGATA     17700

AAGCTTGCTA CTACAGCTCC TAATAAGCAT CCTGTCCCAA TGACTTTCGG CATCATAGCA     17760

CTACCATTAT GAATCATTAC CACTTCTCCA TTAACAGCAA TGGCATCCAC TTCACCTGTT     17820

ACTACTATTG GAATATTGAA CTTCTCATTT GCTGCTAGAG CAATTTCGTC AATATTATCT     17880

ACGCCCGCAC TATCTACTCC TTTAGATGCC ACATCTATTC CTACTAAAGA GGCAATCTCG     17940

CCAGCATTTC CTCTAATCGC TGCTAGTTTA TAATTGTTGA TTAGATCATC TGCTACTTTT     18000

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TCTGCAATTT TCAGAGCAGC TTGGTATAAT TTCCAATTTT CATCTGTCAA TGTTCCTATG     18120

TTTATTAATA AACCACCAGC ATACTTTAAC AAATCCTCTA AATCTGCTGG AAACTCACTC     18180

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AAATCCTTCC TTTTCACTTT ATACGATCTA CTAATTTCGA TTTATCTTTA GTTGAGAATT     18360

TTTTTCATTT ACATTGAATG ATTTATACTC AATGAAAATC AAAGAGCAAA CTAGGAGGCT     18420

AACCGCAGGT TGCTCAAAAC ACTGTTTTGA GGTTGTGGAT AGAACTGACG TGGTTTGAAG     18480

AGATTTTCGA AGAGTCTTAC CTCATCAAAT TTGTAAATAT CATGAGCCTT CTCTAGACAT     18540

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GTTCTGTCAA ATCTTCTCGA TTTTTACCGA CACGATTGAG TTCGTCAACC AGAAATTGAA     18660

CCCACTCTGC AAAGAAAGGA CCTCTGTGGA GATTGATCCA TTCCGAATGA ATATAGACTT     18720

CAGGTAAAGC CAAATCTTTA GAACCCCAGT CTAAATAGAG ACCTTCTGCA ATGACCAGCA     18780

TGACCAAAAG ATGGGCATAG TCTGATGAAG CCACCGCCGA ATACATTAGA TCCTGAAAGG     18840

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TAAAAGCCTT TTGGAAATAA CCATCTTCAT CTGCTTCAAG AAAGCCTAGT TGCTTGGCAA     18960

AACGAAGCTT GGATTCAAGT TTATCTGCGT GACTACGCAG GCACCCAGCA TGGATAAGAA     19020

GGCATCAAAG AAGTGATAAT CTTGAATCAG ATAGTCCTTT AAGACCTTAT TCTCAATTGT     19080

CCCCGCAAAA AGTTCCTTAA CAAAACGATG ATTGATTGCA GCCTGCCAAT CCTTCTGACT     19140

GCTTTTTAAT AATTCTCCAA CAGTCAAACC TGGCTGAAAT GCATAGTCTT GTGTTTCCAT     19200

ATTTACTTCT CCTCTCTTTA CTTGTTAGTA ATTAATAAAA CACCAAGAAA TATCAAGCAA     19260
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442

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AATCGTAATT CCACTTGATC CTTTTAAAGC ACATCGAGAG CATTTGCAGA GAGCTAACTA      19320

AACAAGCCTA TCCAGTTTAT ATAAACAAAA AACTCCAATT ACAATCAAGA ATTAGAGTTG      19380

ACTTACAAGA TTAGACCGTT CATTTCACCA TACGAAAAAA CTGTTCACAT TTCCCTTCGC      19440

CAGTCTTAAC TGTATCAGGT TCAATGGGTA TTATCTCAGC CTAAAGCACC CCAAATGTCT      19500

CTATTATTTA ACTACTGAAC CAGTATAGCA AAAAATGAAA GCCCTAGCAA GATATTTGAC      19560

CGAAAAATAT CTTTATATAT AATATATTGA AACTAGAATA GTACACCTCT ACTTATAAAA      19620

CATTGTTAGA AATCGATTTG ACTGTCCTGA TTGATTTGTC CTATTCTTAT TTCATTTTAC      19680

TATAGTTTTC GATAGCAATT TATTCTTCCA ATACACGAAG AAAAACCTCC ACATTCAGTG      19740

GAGGCAATCT GTTTTATCAA TACAATTTTA AGTCACGAGG GTCAACTGGG AAGGTTGGGT      19800

TGTATGGATT GTGACGGAGC TTGAAGTGTT TGACATCTTC AATGGTCTGA GTTCCAGACA      19860

ATTGCATAAC TGTCTTCAAT TCCGCATTCA AGTGTTCAAA GACTTGACGC ACACCGACAC      19920

TACCACCGAG AGCCAAGCCA. TAGATGACAG GGCGTCCAAT AGCAACCAAG TCTGCTCCTG      19980

ATGCCAAGGC TTTAAAGACG TGTTGACCAC GACGAACACC AGAGTCAAAG ACAATCGGCA      20040

CACGTCTATC AACTGCTTCT GCCACTTCTT GAAGCGAGTC AAAGGCAGCT GGTCCACCGT      20100

CGATTTGACG ACCACCGTGG TTGGTTACCC AGATACCAGA AGCTCCTGCA GCAAGCGAAC      20160

GTTCAACGTC CTCACGGCAT TGTGGTCCCT TGACATACAC AGGAAGACCA GAGTATTCAG      20220

CGATAAATTC TACATCGCGT GGAGACAAGC GTTGTTTAGC TGATTTGTAA ACAAAGTCCA      20280

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CAATCGCTTT ATAACCTTCA GCCTTCACAC GGTCCATGAT GTGGCGGTTG ATACCGTCAT      20460

CCTTACTAAA GTAAAATTGA AACCAATGAG GTGTCCCTTG GAGGGCTTCA GAAATCTCTG      20520

GAAGGTCAAC AGTAGAGTAA GAACTGGTTG TATAAAGAGA ACCAAACTCA TGCACACCAC      20580

GCGCAGTCGC CACTTCCCCC TGTTCATTTG CCAATTTATG AGCCGCAACA GGTGCCATAA      20640

TGATTGGAGA AGATAGTTTT TCACCTGCAA ATTCAATCTC TGTACTTGGA TTTTCTACAT      20700

TGCAAAGTGT ATGAGGAACG ATGAGCTTGT GGTTAAAGGC ACGGATATTC TCTCTTAAAG      20760

TGAAAGTATC TTCCGCCCCA CTAGCGATAT AGCCAAATGC TGCTTTAGGA ATAACTTGTT      20820

GCGCCATTGG CTCCAAATCA TAGGTATTGA TGAArTCTAC ATGACCTTCT GCATTGCTTG      20880

TTTTGTATGA CATAAAATGT CCTCCTTAAT AAGTAAGCGT TTACTTTGTG TATTACAAAA      20940

ATATCTTAAC TCTTTTTCAA AACTTTTAAA ATATTTTGTT TGGAAATTTC AGAAATTTTA      21000

TGTCTATGAT AAAAATCCTT ATAACGGCAA TAAAAAATAG ATATTATCCA AAGAAGATTT      21060
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443

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TAAGTGCTAC AATAACTGTA TTATTTCTAG ATGGGAGGTT CTATTTTTGG ATTGATCCAT   21120

TGTTGAACAA TATCTACCAC TATATCAAAA GGCATTCTTT CTGACCTTGC ATATTGCAGT   21180

TTGGGGAATT TTGGGATCCT TTCTGCTCGG TTTAATCGTT AGTATCATCC GACATTATCG   21240

AATCCTTGTT TTGGCGCAAG TAGCGACAGC CTACATTGAA TTGTCACGTA ATACGCCCCT   21300

TTTGATTCAA CTCTTCTTTC TCTACTTCGG TCTTCCCCGA ATCGGGATTG TCCTATCTTC   21360

AGAAGTCTGT GCAACGCTTG GGCTTGTCTT TTTAGGAGGC TCCTATATGG CAGAATCTTT   21420

CCGAAGTGGG CTGGAAGCCA TCAGTCAAAC CCAGCAGGAG ATTGGCCTCG CTATTGGTCT   21480

GACACCTCTA CAGGTCTTTT ACTATGTGGT TCTTCCGCAA GCAACAGCGG TGGCACTCCC   21540

CTCCTTTAGT GCCAATGTCA TTTTCCTTAT CAAGGAAACC TCTGTTTTCT CAGCAGTGGC   21600

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CCCTCCTTCG TTGCCTCAAC GGCTTAGAAA GTATTCAAGG TGGAGATATT CTTCTGGATG   22620

GTCAGTCTAT CGTTGAAAAT AAAAAAGATT TTCACCTAGT TCGCCAAAAG ATTGGCATGG   22680

TCTTTCAAAG TTATGAACTC TTTCCCCATC TGGATGTCTT ACAAAACCTC ATCCTAGGCC   22740

CTATCAAAGC TCAAGGAAGG GACAAGAAAG AAGTAACGGA AGAAGCTTTG CAATTACTAG   22800
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444

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AGCGTGTCGG TTTGCTGGAT AAACAACATA GCTTTGCCCG TCAATTATCT GGTGGACAGA    22860

AGCAACGTGT TGCAATTGTC CGTGCCCTCC TAATGCATCC AGAAATCATC CTTTTTGACG    22920

AGGTGACTGC TTCGCTGGAT CCAGAAATGG TGCGTGAGGT GCTGGAACTT ATCAATGATT    22980

TGGCCCAAGA AGGCCGTACC ATGATTTTAG TAACCCACGA AATGCAGTTT GCCCAAGCCA    23040

TTACTGACCG GATTATCTTC CTCGACCAAG GGAAAATCGC TGAAGAAGGA ACAGCTCAAG    23100

CCTTCTTTAC CAATCCGCAA ACCAAACGAG CCCAGGAATT TTTAAACGTC TTTGACTTTA    23160

GCCAATTCGG CTCATATCTA TAAAGGAGAT TCTTATGAAA CTATTCAAAC CACTCTTAAC    23220

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TGGTTCATCC TCTGGAAAAA CAACTGCCAA AGCTCGCACT ATCGATGAAA TCAAAAAAAG    23340

CGGTGAACTG CGAATCGCCG TGTTTGGAGA TAAAAAACCG TTTGGCTACG TTGACAATGA    23400

TGGTTCTTAC CAAGGCTACG CTACGATATT GAACTAGGGA ACCAACTAGC TCAAGACCTT    23460

GGTGTCAAGG TTAAATACAT TTCAGTCGAT GCTGCCAACC GTGCGGAATA CTTGATTTCA    23520

AACAAGGTAG ATATTACTCT TGCTAACTTT ACAGTAACTG ACGAACGTAA GAAACAAGTT    23580

GATTTTGCCC TTCCATATAT GAAAGTTTCT CTGGGTGTCG TATCACCTAA GACTGGTCTC    23640

ATTACAGACG TCAAACAACT TGAAGGTAAA ACCTTAATTG TCACAAAAGG AACGACTGCT    23700

GAGACTTATT TTGAAAAGAA TCATCCAGAA ATCAAACTCC AAAAATACGA CCAATACAGT    23760

GACTCTTACC AAGCTCTTCT TGACGGACGT GGAGATGCCT TTTCAACTGA CAATACGGAA    23820

GTTCTAGCTT GGGCGCTTGA AAATAAAGGA TTTGAAGTAG GAATTACTTC CCTCGGTGAT    23880

CCCGATACCA TTGCGGCAGC AGTTCAAAAA GGCAACCAAG AATTGCTAGA CTTCATCAAT    23940

AAAGATATTG AAAAATTAGG CAAGGAAAAC TTCTTCCACA AGGCCTATGA AAAGACACTT    24000

CACCCAACCT ACGGTGACGC TGCTAAAGCA GATGACCTGG TTGTTGAAGG TGGAAAAGTT    24060

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TACCTATAAC ATCCTGAGTC TATCTAAGAT GTTCAATCTG AACACAGTGT ACATACTTTA    24180

TCTTCTATTG CATATACTTT ATCACATAAG ATACGAATAT CCTCTTCACT ATGACTAGCA    24240

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ACACTTGATT TATCCAAGGC ATTCATAGGT TCATCTAGTA AAAGAATAGA GGGATTCTCC    24360

ATAATTGCTT GAGCAATCCC TAGCTTTTTC CTCATACCTA GCGAATAAGT TTTAACTTTC    24420

TGGTCTTTTT GCTCATATAG ACCAACTATT TTCAGTGTAT CATTGATTTC CTGATTACCA    24480

ACTACTCCTC GTATGCTTGC CAAATATTGT AAATTCTTAA AGCCACTATA ATAATTTATA    24540

AAACCAGGTT CTTCAATCAA AGCTCCCAAA TTAGCTGGAA TTTTTCTCTC AGGAACAATA    24600
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445

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TTTTCCCCAT TGATTAACAC TTCTCCATAA GACGGACTAT ATAAACCAGC TATTAATTTA    24660

AACAATACAC TTTTCCCTGA GCCATTCGCA CCAGTAATTC CTATAATTTC CCCCTGTTTA    24720

CAACTAAAGT TAAGGTTTTG AAAAACACAT GTCTTTTTTA ATTTCAACTC AATATTTTTT    24780

AATGTAATTA TTTCATTCAT TCTATAAACC TCCTCTTTTG ACGAGTGAAA TAGAAAATGC    24840

TTTGAAAAAG AAAGACTAAA AATAGCAACT GAAGAAATAA ATCTCGTCCT ATATCTCCAT    24900

TCCCTCGATT CAAAATATAA AATAGATAAT TAGTTCGATT TCCTACAAAT AGACCACCAA    24960

ACACAATCAT GAGTAAAAAG AAACTAACGC AAGCAAAGTT CG                       25002
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(2) INFORMATION FOR SEQ ID NO: 49:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11443 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 49:

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CAGGTACGGT GAGGCGCAAC TAAAATATAA TTTTCATCTT GATTAGGAAT TTTATCAGTA      60

TTATGATAGT GAGCATTGCC ATTGATGGAC CATAAGAGCA ATACAACTAA TCCACGCAAA     120

TAAGTATAAA ACATGCGATC TCCTTCGATT GTTTTCTTGT TATTATTATA CCTTATCAAA     180

GGAGGGCTGG CAAACTTTTC CCTTGACTAG ATACATATTT AGGATGAAAT TAGAATTCTG     240

TTAAAAAAAA TGATATAATA GAATTTATGG ATAAAAATAA GATTATGGGA TTAACCCAAA     300

GAGAAGTCAA GGAAAGACAG GCTGAGGGTT TGGTCAATGA CTTTACCGCA TCAGCCAGTA     360

CCAGCACTTG GCAAATCGTT AAACGAAATG TCTTTACCCT TTTTAACGCT TTGAACTTTG     420

CCATTGCTTT GGCTCTTGCC TTTGTGCAGG CTTGGAGCAA TCTGGTCTTC TTTGCTGTTA     480

TCTGCTTTAA CGCTTTTTCT GGGATTGTGA CCGAGCTACG AGCCAAACAC ATGGTGGACA     540

AGCTCAATCT CATGACCAAG GAAAAGGTCA AAACCATCCG TGATGGTCAG GAAGTTGCTC     600

TTAATCCTGA AGAATTAGTG CTAGGAGATG TCATTCGTTT GTCTGCAGGA GAGCAGATTC     660

CTAGTGATGC CTTGGTTTTG GAAGGCTTTG CGGAAGTCAA TGAAGCCATG TTAACGGGAG     720

AAAGTGATTT GGTGCAAAAG GAAGTTGACG GCTTACTTTT GTCAGGAAGT TTCCTAGCCA     780

GTGGGTCAGT TTTATCTCAA GTTCACCATG TCGGTGCAGA CAACTATGCT GCCAAACTCA     840

TGCTTGAGGC TAAGACCGTT AAACCCATCA ACTCCCGTAT CATGAAATCG CTGGACAAGT     900

TGGCTGGTTT TACTGGGAAG ATTATCATTC CCTTTGGTCT GGCTCTCTTG CTGGAAGCCT     960
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446

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TGCTTTTAAA AGGCCTGCCT CTCAAGTCAT CCGTTGTAAA CTCGTCGACA GCTCTTTTGG      1020

GAATGTTGCC TAAGGGAATT GCCCTTTTGA CCATTACTTC GCTCTTGACT GCAGTGATTA      1080

AGTTGGGCTT GAAAAAGGTC TTGGTGCAGG AGATGTACTC TGTTGAGACC TTGGCGCGCG      1140

TGGATATGCT CTGTCTGGAC AAGACGGGTA CCATCACCCA AGGAAAGATG CAGGTGGAGG      1200

CTGTTCTTCC GTTGACGGAA ACGTATGGTG AAGAGGCTAT TGCCAGCATC TTGACTAGCT      1260

ACATGGCCCA TAGTGAGGAT AAGAATCCAA CTGCCCAAGC CATTCGCCAG CGTTTTGTGG      1320

GAGATGTTGC TTATCCTATG ATTTCCAATC TTCCCTTCTC GAGCGACCGC AAGTGGGGGG      1380

CTATGGAGTT AGAAGGCTTG GGGACAGTTT TCTTAGGGGC ACCTGAGATG TTGCTTGATT      1440

CTGAAGTCCC AGAAGCTAGG GAGGCCTTGG AGAGAGGATC ACGTGTCTTG GTCTTAGCTC      1500

TCAGTCAGGA GAAATTAGAC CATCACAAAC CACAGAAACC ATCTGATATT CAGGCTCTAG      1560

CCTTGCTGGA AATCTTGGAC CCCATTCGAG AGGGAGCAGC AGAGACGCTG GACTATCTCC      1620

GTTCTCAGGA GGTGGGACTC AAGATTATCT CTGGTGACAA TCCAGTTACG GTGTCCAGCA      1680

TTGCCCAGAA GGCTGGTTTT GCGGACTATC ACAGCTATGT AGATTGCTCA AAAATCACCG      1740

ATGAGGAATT GATGGCCATG GCGGAGGAGA CAGCTATTTT CGGACGTGTT TCCCCTCATC      1800

AAAAGAAACT CATCATCCAA ACGTTGAAAA AAGCGGGACA TACAACGGCT ATGACAGGGG      1860

ACGGGGTTAA TGATATCTTG GCCCTTCGTG AGGCGGATTG TTCTATCGTG ATGGCGGAGG      1920

GGGATCCAGC AACCCGTCAG ATTGCCAATC TGGTTCTCTT GAACTCAGAC TTTAATGATG      1980

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AAATCTCAAC TCTACTCTAT TATCTCTTGG GGTCAATTGG TTTCTTATCC GTATTTAGAG      2400

CCTGCATGCC ATTTACCCTA TGGCGTGTCC TCTTGATTGT TTGGTCAGTA GGAGGTTTCC      2460

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GTCGTTACCA AGCGAAAAAA TAAATCAAAA CCACCAGTGT GAACTGGTGG TTTGTTCTGC      2640

GGCTATAAGC CGCTTCTACC GGCCAGGGCC AAAGGCCCAC CGAAATAGCT TCCTCGCGCA      2700

CCACTTTCCC GAGCAGGTGC TAAAGCACCT TAGTTACTTC CTCTTATTTA TTTCGCCAGT      2760
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447

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AAACGGATCT ACTGACTCGA ATAACGTGAG CTGGTCTGCT ACTCTGTCTT CTTGTAATTG    2820

ATTCTGAATA TATTCAGCTA TCACTTTCTG ATTACGGCCT ACCGTATCTA CATAATAGCC    2880

TCTACACCAA AACTTGCGAT TGCCATATTT GTATTTTAAA TTCGCATGCT TATCAAAAAT    2940

CATCAAACTG CTCTTGCCCT TTAAATAGCC CATAAAGGAC GAAACACTAA GTTTCGGAGG    3000

AATACTGATA AGCATGTGAA TATGGTCTGA ACAAGCATTC GCTTCATGGA TTATTACACC    3060

CTTACGCTCA CATAAGTCAC GTATGATTCT TCCGATACTA GCTTTGTATC TGCCATAAAT    3120

GATTTGACGA CGATATTTGG GTGCAAAAAC AATATGATAT TTACAATTCC ATGTGGTATG    3180

TGATAAACTT TGATTATCCT CTCTCATGAG GTACCTCCTG TATGATATGT TGTAGTGGCG    3240

GAGAAACCAC TTCTATCTTA TCATTTTAGG AGGTTCTTTT TGTTACCACG CTAAAAGCTC    3300

TATGGAACCA CTAGCATAGC TAGTGGTTTT CGGGAGACAA CAAGAAAGAC TGCAATCTGT    3360

GGATTGCAGT TTTTTATACG ATGGATCTAT CGTAGATCTG ATGTGCAAGG CCTACGTGCC    3420

GATCATCTAT CGGTGAACCC AAGAGCGACC CTCAAGCCTG CTTGGATTGA GGTAATAGAT    3480

TCAAATATCT GTAGTTAGAC TATTTGAAGT TTGATGTAAG AAAGAGAAAG CGACAGATTG    3540

AAGTAATTTT AACTCTCTTC TATTGCTAGA ACAAATGGTC GGATAGGTTG GTAGTTTGAA    3600

AATGAAGATG CTATCTATTG TTAAATGGAA CATAGTGTTA TTTATTAGAA AATCGTTTGG    3660

TTTATTTCTT ATCAAATACG AAAAGCAACT TAAATATTTC AACTAAAATA GATGTTATGA    3720

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GATATAATGG ATTCATAAAG GAGGTGTATC GTGTCTAGAA AACAAGAACA AATGGAAACG    3900

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CTCGTGGACG TTGATGGGAA TTTTACAGAG GCTTTTGATC CTGAAGTAAG GCGTGAAAAA    4140

TTACTAGAAC GTCTCTTGTT GACTGCTCCT AAGCCACATT CTATTTATGA TTTAGGAGAG    4200

GAATTCTACG TAAGCGAGTC AGTAGTACTA AAAGATCGTA AGATATTACA AGAGAGTCTA    4260

GCAATTTATG GGTTAGATTT AAAAATGAGA CAACGAAAGC TTTTTATTGA TGGGGATGAG    4320

GCTCAAATTC GTTCAGCCAT TCTAAATCTA CTGCCAATGT TTAATCAGTT GGATTTAGAG    4380

CAAATTACAC AGAATAAGGT TCAGCCTCTT GACGGAGAAC TTGCTCACTT TTGTTTGGGA    4440

TTACTGATTA CACTTGAGAG AGAATTGGGG GTAAACATTC CCTATCCATA TAATATAAAT    4500
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448

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ATTTTCTCTC ACCTGTATAT TTTTATCAGT AGGAATCGTC GTAGTACTAG TATTCATGTT        4560

GTAGCACCTT CAAAACCTAC TATTGTTGAT GAGAAAATTT ACAGTGTCTG TCAAAAAATT        4620

ATTCAAGAAA TTGAACAATA TTTTAGGATG AAGGTTGATG CAGTTGAGAT TGACTATCTT        4680

TATCAATACG TTGTATCTTC GAGATTGCAA AAACCATTTT CTTCCGGGAA GCTTCCTTTT        4740

TCTCAGCGAG TTTTAGATGT CACTCATTAC TATTTTAGCC GTATGTGTAT GGACAATAGA        4800

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GCTTATCATC AATTAGATGA GCTGATAAAT CTATATCCAG ATTTAGATTT CATTGTGACG        5220

ACGGTAGCTT TGCAGGAACC AGCAAGTGTC CCGTTTGTCC TAGTTAGTGT TTTTCTAACC        5280

GAGGGTGATA AACAACGTCT TCAAGCAAAA ATTCAGGAGA TAAACTATGA ATAATCTTTC        5340

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TGGGAATTGC CCACACTTAT ATTGCACAGG AAAAATTAGA GAATGCCGCA AAGGTAGCTG        6300
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449

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450

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451

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AGCGGATGCC CGTGAAACTC AAGCGGCTTG GCATCATGCC TTGACCAGTA CCACCACTCC      9900

AACTGTCATT GTCTTAACCC GTCAAAACTT GGTAGTTGAA GAAGGGACAG ACTTTGGTAA      9960

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TGCTCAAGTT AAGTCCCTAT AGAAACCAAT TACAATGAAG ATACAGCTGT TGTCAGACTA     10380

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CGTACGATAC TTCTTAACTG GCTAGCACAA TACAGGAAAA ACGGGTATAC TATTGTTGAG     11040

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GAGTTTTCGT TAGATCTTCT TCTAAAAGCC ATTAAACTAG CTCGTTGGAC CTACTACTAT     11220

CACTTGAAAC AGCTAGATAA ACCAGATAAG GACCAAGAGC TTAAAGCTGA AATTCAATCC     11280

ATCTTTATCG AACACAAGGG AGATTATGCT TATCGCCGGG TTCATTTAGA ACTAAGAAAT     11340

CGTGCTTATC TGGTAAATCA TAAAAGAGTT CAAGGCTTGA TGAAAGTACT CAATTTACAA     11400

GCTAGAATGC GACAGnAACG AAAATATTCT TCTCATAAAG GAG                       11443
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(2) INFORMATION FOR SEQ ID NO: 50:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 5338 base pairs

452
(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 50:

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CCAATTACAT TATATTATCA AAATCGTCGA AACTGGCTCC ATGAATGAGG CAGCCAAGCA       60

ACTCTTTATC ACTCAGCCAA GTCTCTCCAA TGCAGTGCGA GATTTGGAAA ATGAAATGGG      120

CATTGAGATC TTTATCCGCA ATCCCAAGGG AATCACCTTG ACCCGTGATG GCATGGAGTT      180

TCTCTCTTAT GCCCGTCAGG TTGTCGAGCA GACCCAGCTT CTGGAGGAAC GCTATAAAAA      240

TCCTGTCGCC CACCGCGAAC TCTTTAGCGT TTCGTCTCAA CACTATGCCT TTGTGGTCAA      300

TGCCTTTGTC TCTTTGCTCA AGAAAAGCGA TATGGAGAAA TACGAACTCT TCCTTCGTGA      360

AACTCGGACT TGGGAGATTA TCGACGACGT CAAGAACTTC CGCAGTGAGG TCGGGGTCCT      420

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AGCCCACCAT CTCTTCACAG CGCAACCGCA TATCTTTGTC AGCAAGACCA ACCCTCTGGC      540

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ATCCATTGTG GTCAGTGACC GTGCCACCCT CTTTAATCTC TTGATTGGTT TGGATGGTTA      720

TACCATTGCG ACAGGGATTT TGAACAGCAA CCTAAACGGA GACAATATCG TTTCTATCCC      780

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TAAGATGGGC GAACGCTTTA TAGACTATCT CCTAGAAGAA GTTCAGTTTG ATAGTTGAGA      900

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ATTAAAAGTT TCCCCTGCCA ACTTATCAGC TAGCTTGGGA AAGAGAGTAT AAAACTTATG     1020

GGCTAGGTTC AACAAAATCG GGAGATTGAG TTCTCGTTTG TTTTTTCCTA TAATCTTGAC     1080

AATCTTTTTA GCCACTGCAT CTGGTTCTAG CAGGAAGCGA TCAACCGATT TAAGATAAGT     1140

TCCATCTGGG TCGGCTTGGT CGAAAAATCC TGTACGGATT GGTCCTGGAT TGACTGTTGT     1200

CACATAGACT CCATAGGGCA TAAGTTCGAG TCGCAGAGCA TTTGAAAAAC CAATAGCCGC     1260

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GTCAAATCCC TCAAAAATCC CGTAACCAGC GTTGTTAATC AAGACATCAA TCTTGCCATA     1500

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453

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TCTTCCAAGT CTTTGACCAC ATGGACATTT TCAAAAATTG TGGCAGCGTC TTTCTTGAGT        1800

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ATTTTTTCAT CACCCTTGCC ATAAGTGGAC TCATGAACTA GGACATCTGC ATTGACAGCC        1980

AGACGCACAC TGGCACCCGT TTTTCGAGTG TCTCCTAAAA TAGTGATAAT CTTACCTGGA        2040

CGTGGCGCTG AGATATAGTC TGCTGCCTTG ATTTCAGTTC CGTCTTCCAA AACAAGATCC        2100

TGGCCGTTTT TGATTTTACC AAAAAGCGGG CCGAACGGAA CACCAGCAGC CTTGAGTTTT        2160

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GAATCTTGGT CAAACTCATG GAAATGAATG CGGTAGGGCA GACGAGAACC TGACACACGA        2340

AGGCTGGTTA AGACAAATGA CTTGATTCCT TGAGGTCCGT AGATTTCCAA ATCTGTCTGC        2400

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CCATGCAGAT GGGTAATAAA GATTTTGCTG ACCTTACGTG GTCGAATTGT GGTTTCCAGA        2520

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TGTCCAGACT TGTATAACCT CCATACTTTA GAGCCAAAGT TTTAATATCA GTCATAAAAT        3300
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454

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GAAAAAGGCA CTCGCAGGGT AAATGCTTCA AAAATTTCCT TAATCTTATC TAGCAATAAT     3480

GCTTGCAAGT TTTCACGACT GTCCTCAGAC TTGGCAGAAA TGAGGGTATA TGGCGTTTGG     3540

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ACAGTCGCAC GATTTTTCTC AACCACCTTG AGCTGGCGCT CGATATCCGT GATTTGATTG     4020

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AAAATCAACT GCATACGGTC AATGACCTTA ACACCGAGAA CTTCCTCTAG ATTGACATTC     4260

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455

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AGTCCCACCG GCGATAATGG CTAGCTTGCC ACGGTTGTGA ATACCCTCAA TAGTCATCTT      5160

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TCGATAGACT TGCTGGCTAT CTCCACTAAC CACTTCGCCA TTAAAACGCT TTGCGGGG       5338
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(2) INFORMATION FOR SEQ ID NO: 51:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 19446 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 51:

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TGGAACAGAA GGGGATAACT GGCTTATCAA GGGTGTGGCC TTTGAAAAAG CTCAGTTTGG       180

CAAGCACATC ATTGTTTCAG CCATTGAACA TCCAGCAGTC AAAGAGTCAG CCCTCTGGTT       240

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AATGAAATCG GCTCTATCCA ACCTATTGAG GCTATTTCAG AATTCTTGGC AGACAAGCCG       420

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CTGACAGAAC GGGTGGATTG CGCGACTTTC TCTAGTCACA AGTTCCACGG GGTTCGAGGT       540

GTTGGCTTTG TCTATATCAA ATCTGGCAAG AAGATTACAC CTCTTCTTAC AGGTGGTGGC       600

CAGGAGCGAG ATTATCGTTC GACAACTGAA AATGTGGCAG GGATTGCAGC GACAGCCAAG       660

GCCCTCCGTT TGTCTATGGA AAAGCTAGAT ATCTTTAGGA GCAAGACTGG GCAGATGAAG       720

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456

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457

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458

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459

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460

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461

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463

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464

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CGCACAACTA GATACAAAAA CAGTCTATAG TTTTATGGAA AGCGTCATTT CGATCGAAAA    15360

GTATGTGAGA GCAGCTAAAG AATACGGCTA CACTCATTTG GCTATGATGG ATATTGACAA    15420

TCTTTATGGC GCTTTCGACT TTCTAGAGAT TACAAAAAAA TACGGCATTC ATCCTTTGCT    15480

AGGGCTTGAA ATGACAGTGT TTGTAGATGA TCAGGGAGTG AATTTGCGCT TTTTAGCTCT    15540

ATCTAGTGTG GGCTATCAGC AGTTGATGAA GCTTTCGACA GCCAAGATGC AGGGGGAGAA    15600

AACTTGGTCA GTCCTGTCCC AGTACCTGGA GGATATCGCG GTCATTGTGC CTTATTTTGA    15660

TAGAGTTGAG TCGTTAGAAC TAGGCTGTGA TTACTATATA GGGGTTTATC CAGAAACACT    15720

AGCAAGCGAA TTTCATCATC CTATCTTACC TCTTTATCGG GTCAACGCTT TTGAAAGCAG    15780

GGATAGAGAA GTTCTTCAAG TTTTAACAGC GATTAAAGAA AATCTACCGC TCAGAGAAGT    15840

TCCCTTGCGT TCGAGACAAG ATGTCTTTAT ATCAGCAAGT TCTTTAGAGA AACTATTCCA    15900

AGAGCGTTTT CCGCAAGCTT TGGACAATTT AGAAAAGCTT ATTTCAGGCA TTTCTTACGA    15960

CTTGGATACT AGTCTGAAAC TGCCTCGTTT TAATCCAGCT AGACCAGCAG TAGAGGAGTT    16020

GAGAGAGCGT GCTGAACTGG GGCTTGTTCA GAAGGGGTTG ACTAGTAAAG AATATCAAGA    16080

TAGACTAGAC CAAGAATTGT CTGTTATTCA TGATATGGGC TTTGATGATT ATTTCTTGGT    16140

TGTTTGGGAT TTGTTGCGTT TTGGACAATC GAATGGCTAT TATATGGGAA TGGGAAGGGG    16200

TTCTGCAGTA GGCAGTTTGG TTTCTTATGC CTTAGACATC ACGGGGATTG ACCCAGTAGA    16260

GAAAAATCTG ATTTTTGAAC GCTTTCTTAA TCGTGAACGC TATACCATGC CTGATATTGA    16320

TATTGATATC CCAGATATTT ATCGTCCAGA TTTTATCAGA TATGTTGGTA ATAAATATGG    16380

TAGTAAACAT GCGGCACAAA TCGTTACTTT TTCAACCTTT GGAGCCAAGC AAGCTCTTCG    16440

AGATGTCTTG AAACGCTTTG GTGTGCCAGA GTATGAATTA TCTGCAATTA CTAAGAAAAT    16500

CAGTTTTCGT GACAATCTTA AGTCGGCCTA TGAGGGAAAT CTCCAGTTTC GTCAGCAAAT    16560

CAATAGTAAG TTAGAATACC AAAAAGCTTT TGAGATTGCT TGCAAGATAG AGGGCTATCC    16620

AAGGCAAACC TCTGTCCATG CGGCTGGTGT TGTAATTAGT GACCAAGATT TAACCAACTA    16680

CATTCCTCTA AAGTATGGTG ATGAAATTCC ACTGACTCAG TATGATGCTC ATGGAGTTGA    16740

GGCTAGCGGA CTTTTGAAGA TGGACTTTCT GGGACTACGA AATTTGACCT TTGTCCAGAA    16800

GATGCAAGAG TTGCTTGCTG AAACAGAAGG TATTCATCTG AAAATTGAAG AAATCGATTT    16860

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TGAGCAACCA GGTGCCATTC GTCTGCTTAA GCGTGTGCAA CCAGTCTGTT TTGAAGATGT    16980

CGTCGCGACT ACTTCTCTAA ATCGACCGGG TGCTAGTGAC TATATCAATA ATTTTGTGGC    17040

AAGAAAGCAT GGGCAGGAAG AAGTGACTGT TCTGGATCCA GTACTGGAGG ATATTTTGGC    17100
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465

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TCCAACCTAC GGCATAATGC TCTATCAGGA GCAGGTTATG CAGGTTGCCC AGCCGACTTGC    17160

CGGATTTAGT CTTGGGAAAG CCGATATTTT GCGTCGGGCT ATGGGGAAAA AGGATGCCTC    17220

TGCCATGCAT GAGATGAGGG CTTCCTTTAT TCAAGGTTCA TTAGAAGCTG GTCATACTGT    17280

GGAAAAAGCA GAGCAGGTCT TTGATGTTAT GGAGAAGTTT GCAGGTTATG GTTTTAACAG    17340

GTCACACGCC TATGCCTACT CAGCCTTGGC CTTCCAGTTG GCTTATTTCA AAACGCATTA    17400

TCCAGCCATT TTTTATCAGG TCATGTTAAA TTCTTCCAAC AGTGATTACT TAATAGATGC    17460

ACTTGAAGCA GGTTTTGAAG TAGCCTCTCT ATCCATCAAC ACCATTCCCT ATCACGATAA    17520

AATTGCCAAC AAGGCCATCT ATCTAGGTTT GAAATCCATT AAAGGAGTCA GTAATGATTT    17580

AGCTCTCTGG ATTATTGAAA ATAGACCTTA TTCTAACATT GAAGATTTTA TAGCTAAATT    17640

ACCTGAGAAT TATCTGAAAC TTCCTCTGCT AGAACCTTTG GTAAAAGTTG GTCTTTTCGA    17700

TTCATTTGAA AAAAATCGTC AAAAAGTATT TAATAACTTA GCTAATCTAT TTGAATTTGT    17760

GAAAGAGTTG GGAAGTTTGT TTGGAGATGC TATTTATAGT TGGCAGGAAT CGGAAGATTG    17820

GACGGAACAA GAAAAATTTT ATATGGAACA AGAGCTTTTA GGGATAGGTG TCAGCAAACA    17880

TCCACTACAA GCTATTGCAA GTAAGGCTAT TTACCCGATT ACCCCAATCG GAAATTTGTC    17940

AGAAAATAGC TATGCTATTA TCTTGGTTGA AGTTCAGAAA ATAAAAGTGA TTCGTACCAA    18000

AAAGGGTGAA AATATGGCCT TCTTACAGGC AGATGATAGT AAGAAAAAAT TGGATGTCAC    18060

TCTCTTTTCA GACTTATATC GTCAGGTTGG ACAGGAAATA AAAGAGGGAG CCTTCTACTA    18120

TGTAAAAGGA AAAATACAAT CACGTGATGG CCGTCTGCAA ATGATTGCAC AAGAAATAAG    18180

AGAAGCAGTT GCTGAACGCT TTTGGATACA GGTGAAAAAT CATGAATCGG ATCAAGAAAT    18240

TTCACGCATT TTAGAACAAT TTAAAGGCCC AATCCCAGTC ATCATCCGGT ATGAAGAGGA    18300

ACAGAAAACC ATCGTTTCTC CCCATCATTT TGTAGCTAAA TCCAATGAAT TAGAGGAGAA    18360

ATTGAATGAA ATCGTTATGA AAACGATTTA TCGCTAAAAA TACGGAAAAT AGAAGAATTT    18420

TCAACGTAAA TGTGGTATAA TCAGTAAGAA TGTTAAAAGA AAAAGGAGCA TAACCAATAT    18480

GAAACGTATT GCTGTTTTGA CTAGTGGTGG AGACGCCCCT GGTATGAACG CTGCCATCCG    18540

TGCAGTTGTT CGTCAAGCAA TTTCAGAAGG AATGGAAGTT TTTGGTATCT ATGACGGATA    18600

TGCTGGTATG GTTGCCGGTG AAATTCATCC CCTAGATGCA GCTTCAGTAG GGGACATCAT    18660

TTCTCGTGGT GGTACTTTCC TTCACTCAGC TCGTTACCCA GAGTTCGCTC AACTTGAAGG    18720

GCAACTTAAA GGGATTGAGC AATTGAAAAA ACACGGAATT GAAGGTGTAG TTGTTATCGG    18780

TGGTGACGGA TCTTACCACG GCGCTATGCG TTTGACTGAA CATGGCTTCC CAGCTATTGG    18840
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466

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TCTTCCAGGT ACAATCGATA ACGATATCGT TGGTACTGAC TTTACAATCG GTTTTGACAC      18900

AGCGGTTACT ACTGCCATGG ACGCTATCGA TAAGATTCGT GATACATCAT CAAGTCACCG      18960

TCGTACTTTT GTAATCGAAG TTATGGGACG TAACGCTGGT GATATCGCTC TTTGGGCTGG      19020

TATTGCAACT GGTGCTGATG AAATCATCAT CCCTGAAGCA GGCTTCAAGA TGGAAGATAT      19080

CGTAGCAAGC ATCAAAGCTG GTTATGAATG TGGTAAAAAA CACAATATTA TCGTCTTAGC      19140

TGAAGGTGTG ATGTCAGCGG CTGAATTTGG TCAAAAACTT AAAGAAGCTG GAGATACAAG      19200

CGACCTTCGT GTAACAGAAC TTGGACATAT TCAACGTGGT GGTTCTCCAA CTGCGCGTGA      19260

CCGTGTTTTG GCGTCACGTA TGGGTGCACA TGCTGTTAAA CTTCTTAAAG AAGGTATCGG      19320

TGGTGTTGCG GTTGGTATTC GTAACGAAAA AATGGTTGAA AATCCAATTC TTGGTACTGC      19380

AGAAGAAGGG GCATTGTTTA GCCTTACTGC AGAAGGTAAG ATTGTGGTTA ACAACCCAGC      19440

TACAAA                                                                 19446
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(2) INFORMATION FOR SEQ ID NO: 52:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 16593 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 52:

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TCGTAAATAT GCTCTGTTTT TGGATTTTGT TTCTTAATCT GTTTGGCAAG TGCCTTCATC        60

ATAGAAATAG GACCACACAT ATAGACGGTT GCATGTTCGG GCACTTCTTT TTGTTCAAAA       120

TTAAGATAGC CGTCTTTCGT ACTGTCGATT AGATGGAGTT CAAAATTAGG ATTTTTCTGA       180

GCATAGTTAC GGAGTAAATC TAGGTAGACT GCATTTTCAT CTCCACGGAA GCTATAGTAG       240

AAGTGAACCT GTTTATCTAA AATAGGATGT TCACGGATGT AAGAGATGAA GGGGGTGATC       300

CCAATACCTC CAGCAATCCA AACCTGATTT TCTCGTCCTT CTTCTATGAT CATGTGTCCG       360

TAAGCTCTGT CTAGGGTTAC TTTGCTGCCG GCTTGAAGAT TATCATAGAT ATTCTTGGTA       420

TGGTCGCCTG AAGTTTTAAC AGTAAAGTAA AGAGTTTGAC CATGACCTCC TGAGATAGAA       480

AAGGGATGCG GAGCACTTTC AAAGCCTTCT TGGAAAATCT TTAGAAAGGC AAATTGTCCT       540

GATTGATAGT TGAAAGGTCT GCTAAGATGG ATTTGAATTT CTCTAGTATC GTGATTTAAG       600

CGTTTGAGAT GGGTAATTTT CCCTAGATAG GGGAAGGAAA TCTTTTGATA TAGAAAAATG       660

ATATAAAAAC CAGCTAGTAA GCCTAAAAGG GCATAGCTAC CAACAAGAAA ACTTAGAAGA       720

TTAAATGTAA GGAGACGATT GCCCATTATC ATGTAGATGT GAAAGAGTCC TAAAATATAG       780
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467

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GCTAGGTAAA CCAGGCGGTG AATCCATCGC CAAGCTTCGT ATTGGATGTA TTTGCCTAAA          840

TAGGCGACAA GGATGATGCT GGCAAAGATA TAGATGGCAA GATTGCCAAA CTGAGCAGCT          900

AAGCGAGAGC CCCACAAACC GCCCATACTA AAGTTATGAA AGATTAGTAG GATGATTGAG          960

AGAAAGGCTG TGAATTTGTG GACGGTGTAG ACCTTCTCCA AACTGTGAAA CCAGCTTTCT         1020

AGTAGTGGGA GACGAGTGGC TAGGATAAAA GTCAGAGATA GGCTTGTTAA AGCTAGTCCT         1080

GGAATCATGA ATTGGGGAGA AGTGTTCATC CAAGTCAAAA GAGTCAAGAT AAAACTAGCT         1140

ATGATAAAGA GTAGTCCTTT GACTGATTTC ATAGAAAATT CCATTTCATT TAGATTTCGA         1200

TTTGTTGTAA ATAAATTTGT TACATTTTAT CATAGAAAAT GTATGGTGTC AAATTGAGGT         1260

CTATAAATAT CTACTCTCAT CAAAAAACTC TCCAATTGAA CTGGAGAGTG GCTGTTTATA         1320

CTCAATGAAA ATCAAAGAGC AAACTAGGAA GCTAGCCGCA AGTTGCTCAA AACACTGTTT         1380

TGAGGTTGCA GATAGAGCTG ACGTGGTTTG AAGAGATTTT CGAAGAGTGT TATTCTGCAG         1440

CTTGTTGCCA ACGTTTGGCT AGCATATGAG ACAGGCTAGA AATTGCTAGG TTAAAGCTGA         1500

AGTAGATGAG GGCAATCAGG ATGTAAAGAC TGAAGACCTG CTCTGGTTCG AAATAACGGC         1560

CCATGAGAAT TTGGCTGGCT CCAAAGAGTT CTTGTAGGGC GATAACAGAG TAGAGGAGAC         1620

TGGTATCCTT AATCACGGTA ACAAACTGAG AAATGATGGC TGGTAGCATT TTGCGGATGG         1680

CTTGTGGGAG AATGATGTAG TAGAGGATTT GGGCTGAGGT GAAGCCTTGT GACATTCCTG         1740

CTTCGTACTG TCCCTTGTCT ACGGCATTGA GACCGCCTCG AATAATCTCA GCCAAGGCTG         1800

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TGGAAATAAT GCGTAAGACA GGATTTTTGC CATTTCTCGT GACAGCTAGC ACCGTACCGA         1980

TGATAGTAGA GAGGATGATG GCAATCAGAG AAATATAGAG GGTCAAGCCA AATCCTTTAA         2040

AGATAAAGAC TAGGTTATCT GGGGTTAAAA CTTCTAAAAT AGATTCCATA GTAACCTCCT         2100

AAAGTGAATA GGCTTTTTTG TTGGCTTGCT CCATCTTGCG ACCAAACTGG GCAACAGGGA         2160

AGCATAGAGC AAAGTAGAGA AGAGCAGCAC CTAAAAAGGC TGGTATATAG TTTCCGTTGA         2220

GAGCCGACCA AGACTTAGTC ACAAACATCA AGTCTACTCC AGAGATGATA GCTACAGTAG         2280

AGGTGTTCTT GATGAGGTTA ACAATTTGGT TGGTCAATGG AGGGAGAATG ATGCGGAAGG         2340

CCTGAGGCAA GATAATCAAG CGCATGGCAC TGATATAGGT AAAACCTTGC GACAAGGCGG         2400

CCTCCATCTG ACCACTAGGA ATAGACTGAA TCCCTGAACG AATAACCTCA GCGATATAAG         2460

CGCCGTGATA GAGTCCCACG CAGAGAACGG CTGTCCAATA AATTGGAATC ATGATGATAT         2520
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468

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GGTCACTGAT AAGAGGTAGG CCATAAAAAA CAATAACAAA CTGCACCAAG AGGGGAGTAT    2580

TTTGGTAAAA TTCAACAAAG ATGCGAGCTA AAATGCGTAA AATTGGACGT TTACTGGTTG    2640

ACATGGCACC AAAGAAGATG CCCAAAACCA TAGCGAGGAT AAAGGAACCA ACCGCTAGGG    2700

CAAGGGTGAA GAGGAAACCA TTGAAAAATT GTCCAAAATC CTGAAAATAG GCTGTCCAAG    2760

ATGATAAATC TGTCATGGGG TGTCCTCCTT AATCTGCAGT ATGGCTAGAT GGTTTGAGCT    2820

TGTAACGGTC ATAAAGTTTC TGCAAACTAC CATCCTTGCT CCATTTAGTA ACCAAGTTAT    2880

CAAGATAGTC GTTGAGCTCT GTATTTGATT TCTTGGTAAC AATACCGTAG TCAGATGGCT    2940

TGAAACTATC ATCTAGTAGT GCTGTCCGTT TACTAGTGTA GCCAGATAGA ATAGAGCGGT    3000

CAACGGAAAA GGTATCGATA CGATGAGCGT GCAGGGAAGT AATCAATTCT GGGTAGGAAC    3060

CAAGTTCGAC GAATTTAAAC TTCAGACCTT TCTTTTTACC CAGTTCAGTA ATCAGGCGTT    3120

GGGTGATAGA ACCTTGGGCG ACTCCGATGG TTTTGCCGTT TAGGTCCTCA ATCTTTTTGA    3180

TTTTGGCAGA TTTATTGACC AAAAATCCAG AAGCGTCTGT GTAGTAGGGA CTGGTAAAGT    3240

TGTAGAGTTT TTTGCGTTCG TCCGTGATGG TAAAGGTCGC GATATCCATA TCGACCTGTT    3300

CATTGTCTAG AAGGGGGCCG CGGGTTTGTG CTGTAACCGG CACATAGCGA ATCTTGACCT    3360

TGAGTTCATC AGCTACCATC TTGGCCAAGT CGGTTTCGAT ACCAGAATAA GTACCGGTCT    3420

TGGGATCTTT GTAACCAAAA TTGGGAACGT CTTGTTTGAC ACCGACAACC AGTTCGCCTC    3480

TTTTTTGAAT GTCTGCGATA CTTGTATCAG CCTGGACTGG TTTGGCAGCA GCAAGGCCGA    3540

AAAGGCTAAT CAATAATGCT GATAAAAAGA ATTTTTTTTC ATAGGCGCCT CCTTATTTGA    3600

CTTTGTCACT TTCGTGGTTG ATAATTTTGC TGAGGAATTG TTGGGCACGA GGTTCGCTTG    3660

GATTGTCAAA AAAGTTATCG ACATCTGTCG TATCTACTAA AACTTCTCCG TCGGCCATAA    3720

AGATAATGCG GTCCGCAACC TCTCGAGCAA AGCCCATTTC GTGGGTAACG ATGATCATGT    3780

TCATCCCATC ATGCGCCAGT TTCTGCATAA CTGCTAGAAC ATCTCCGATA GTCTCAGGAT    3840

CAAGAGCAGA TGTTGGTTCA TCAAAGAGGA GGAGTTCCGG ATGCATAGCA AGACCACGAG    3900

CGATGGCGAT CCGCTGTTTT TGTCCACCAG ATAGCATGGC GGGATAGGAA TCTTTCTTGT    3960

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TTCCTAGAAC TTCAATGGGT GCAAGCGTTA CGTTTTCTAA CACAGCTTTG TGTGGATAAA    4080

GGTTAAAATG TTGAAAAACC ATGCCGACTT CCTTGCGAAG AGGTACCAAA TCTTTCTGGC    4140

TGGCACCAGC AACTTGGTGC CCATTGACTA GGAGACTTCC TTTGTCAACA GTCTCTAAAC    4200

CATTGATCGT ACGGATAAGA GTGGACTTCC CAGAGCCAGA AGGTCCAAGC AGGACAACAA    4260

CTTGTCCTTT TTCAAAACGG AGATTGATGT TGCGGAATGC GTGGTAGTCT CCGTAATATT    4320
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469

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TTTCGACGTT TTTAAATTCT ACTAAAGCCA TGAGAGATCT CTATTGTGTT ATATTTTATA        4380

ACACGGTTCT ACAATAAAAG AATGTTCTTG TCAAATCATA TCTGAAAAAA TTCACTATAG        4440

TGAAATAAGA ACAGGAAAAA TCGATCGGGA CAGTCAAATC GATTTCTAAC AATATTTTAG        4500

AAGTAGAGGT GTACTATTCT AGTTTCAATA TACTATAAAA TGTTATAAAA AAGCAATCTG        4560

GATAGAGAAA ACGTCTAAAT CATGTTATAA TGAAGCAATA GAATTCTTAG AAAGAGTGGA        4620

TGTCTTTTTG ATAACACCTA CTTATGAATG GCAGTTTGCC CTGCAGGTAG AAGATGCGGA        4680

TTTTACAAAG ATAGCCAAGA AGGCTGGACT GGGTCCTGAG GTGGCTCGGT TATTGTTTGA        4740

GAGAGGGATT CAGAACCAAG AAAGTCTGAA GAAGTTTTTA GAACCTTCCT TGGAGGACTT        4800

ACATGATGCT TATCTGCTCC ATGATATGGA CAAGGCAGTG GAGCGGATTC GTCAGGCTAT        4860

TGAAGAAGGG GAAAATATTC TTGTTTATGG AGACTATGAT GCGGATGGCA TGACTTCGGC        4920

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AGGGATTTCC TTGATTGTGA CGGTGGACAA TGGGGTTGCT GGTCATGAGG CTATTGCATT        5100

GGCTCAGTCT ATGGGAGTAG ATGTCATTGT GACAGACCAT CATTCCATGC CTGAAACCCT        5160

GCCAGATGCT TATGCTATTG TCCATCCTGA ACATCCAGAT GCGGATTATC CTTTTAAATA        5220

TTTGGCTGGT TGTGGAGTTG CTTTCAAGTT GGCTTGTGCC CTGTTAGAAG AAGTGCAAGT        5280

GGAATTGCTT GATTTGGTCG CTATTGGAAC TATTGCAGAT ATGGTGAGTC TGACGGATGA        5340

AAATCGTATC TTAGTTCAAT ATGGTCTGGA AATGTTGGGT CATACCCAGC GCATTGGTCT        5400

GCAAGAAATG CTGGACATGG CTGGGATTGC TGCCAACGAA GTAACAGAAG AAACGGTTGG        5460

TTTCCAGATT GCTCCTCGTT TGAATGCCTT GGGTCGCTTG GATGATCCCA ATCCTGCCAT        5520

TGATTTGTTG ACTGGATTTG ATGATGAGGA AGCGCATGAG ATTGCCCTTA TGATTCACCA        5580

GAAAAACGAA GAGCGCAAGG AAATCGTTCA GTCTATCTAT GAAGAAGCCA AGACCATCGT        5640

GGATCCTGAG AAGAAGGTTC AGGTCTTGGC CAAGGAAGGC TGGAATCCTG GGGTTCTAGG        5700

AATCGTGGCT GGTCGTTTAT TGGAAGAATT GGGACAGACA GTCATTGTTC TTAATATAGA        5760

AGACGGTCGT GCCAAGGGCA GTGCTCGTAG TGTGGAAGCG GTCGATATTT TTGAAGCTCT        5820

GGATCCCCAT CGAGACCTCT TCATCGCCTT TGGAGGTCAT GCAGGTGCAG CGGGTATGAC        5880

GCTGGAAGTT GAGCAACTCT CAGATTTATC TCAGGTTTTG GAAGATTATG TTCGTGAAAA        5940

AGGTGCAGAT GCTGGTGGCA AGAATAAGTT AAACCTAGAT GAAGAGTTGG ATTTGGAGGC        6000

ACTTAGCTTG GAAACGGTCA AAAGTTTTGA ACGTTTAGCT CCTTTTGGAA TGGATAATCA        6060
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470

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GAAACCTATT TTTTATATCA AGAATTTTCA GGTCGAAAGT GCTCGTACTA TGGGGGCAGG      6120

TAATGCCCAT CTAAAGCTGA AAATTTCCAA GGGTGAGGCG AGTTTTGAAG TGGTAGCCTT      6180

TGGTCAAGGC AGATGGGCGA CAGAGTTTTC TCAAACCAAG AATCTAGAGT TAGCGGTTAA      6240

ATTGTCTGTC AACCAATGGA ATGGCCAAAC TGCCCTCCAG TTGATGATGG TGGATGCGCG      6300

AGTGGAAGGT GTTCAACTTT TTAACATTCG TGGAAAAAAT GCAGTCTTGC CAGAAGGTGT      6360

TCCAGTCTTG GATTTTCCTG GAGAACTGCC AAATCTTGCG GCTAGTGAAG CTGTTGTCGT      6420

AAAAAACATT CCAGAGGATA TTACTCAGCT GAAGACCATT TTTCAGGAAC AGCATTTCTC      6480

TGCTGTCTAT TTCAAAAATG ATATTGACAA GGCTTATTAT CTGACAGGTT ATGGGACTAG      6540

AGATCAGTTT GCCAAATTGT ACAAGACTAT TTACCAGTTC CCAGAGTTTG ATATTCGCTA      6600

CAAGCTGAAA GATTTGGCTG CATATCTTAA TATTCAACAA ATCTTGCTGG TCAAGATGAT      6660

TCAAGTATTT GAAGAACTAG GCTTTGTGAC GATAAAAGAT GGTGTGATGA CAGTCAATAA      6720

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TAAAGACCAA GAAATGATGG CGCTGGGTAC GGTGCAAGAA ATTTATGATT TTTTGATGGA      6840

AAAAGAGTAG AAGTTAGGAA AGAGTTGGGA AATCAACTCT TTTTTGAAAA CAGACCTTCA      6900

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AACTTTTAGA ATAAGAGGGT AGAATTGCCC TATAATCAAG ATAAACTAAG ATTTTGGAGG      7020

AAAAATGAGT AATATCAGTT TAACAACACT TGGTGGTGTG CGTGAGAATG GAAAAAATAT      7080

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AAAGCTCTTT GTCAAAGGAA ATGATGCCGT TAAGAAATTT AATGATTTCC ATGTCATTGA      7380

TGAGAATACG GAGATTGATT TTGGTGGGAC AGTGGTTTCC TTCTTCCCTA CGACTTACTC      7440

CGTTCCAGAG AGTCTGGGAA TTGTCTTGAA GACATCGGAA GGAAGCATCG TTTATACAGG      7500

TGACTTCAAA TTTGACCAAA CGGCTAGTGA ATCTTATGCA ACTGATTTTG CTCGTTTGGC      7560

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TATTCAGGTG GCTAGTGAAA GTGAAGTTAG GGATGAAATT ACCCAAACTA TTGCTGACTG      7680

GGAAGGTCGT ATCATCGTTG CAGCTGTTTC CAGTAATCTT TCTCGTATTC AGCAGATTTT      7740

TGACGCTGCG GATAAAACAG GTCGACGTAT CGTCTTGACA GGATTTGATA TTGAAAATAT      7800

CGTCCGCACA GCGATTCGTC TTAAGAAGTT GTCTTTAGCC AACGAAATTC TTTTGATTAA      7860
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471

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GCCTAAAGAT ATGTCTCGCT TTGAAGACCA TGAGTTGATT ATTCTTGAGA CAGGTCGTAT    7920

GGGTGAGCCT ATCAATGGAC TTCGTAAGAT GTCGATTGGT CGCCATCGTT ATGTAGAAAT    7980

CAAGGATGGG GACCTAGTCT ATATTGCTAC GGCTCCGTCT ATTGCTAAAG AAGCCTTTGT    8040

TGCGCGTGTG GAAAATATGA TTTATCAGGC AGGTGGGGTT GTCAAATTGA TTACCCAAAG    8100

TTTACATGTA TCAGGGCACG GAAATGTGCG TGATTTGCAG CTGATGATCA ATCTTTTGCA    8160

ACCTAAGTAC CTCTTCCCTG TCCAAGGGGA GTATCGTGAG TTGGATGCTC ACGCTAAGGC    8220

TGCCATGGCA GTTGGGATGT TGCCAGAACG CATCTTCATT CCTAAAAAGG GGACGACCAT    8280

GGCTTACGAG AATGGAGACT TTGTTCCAGC TGGATCGGTT TCAGCAGGAG ATATCTTGAT    8340

TGATGGGAAT GCCATTGGTG ATGTTGGAAA TGTTGTTCTT CGTGACCGTA AGGTCTTGTC    8400

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CGCTTCTTCC CTAATATGAC GAGCAAGCGT GAAAAGACCT TTATCGCTGG TCTTTCTATG    9120

GGAGGCTACG GCTGCTTCAA ACTGGCTCTT ACGACAAATC GTTTTTCTCA TGCAGCTAGT    9180

TTTTCAGGTG CCCTCAGCTT TCAAAACTTT TCTCCTGAAA GTCAAAATCT GGGAAGTCCA    9240

GCCTACTGGA GAGGTGTTTT TGGAGAGATT AGAGACTGGA CAACTAGTCC CTATTCTCTT    9300

GAAAGTCTGG CTAAAAAATC GGATAAAAAG ACCAAACTTT GGGCGTGGTG TGGCGAACAG    9360

GATTTCTTGT ACGAAGCCAA TAATCTCGCA GTGAAAAATC TCAAAAAACT AGGTTTTGAT    9420

GTGACCTATA GCCATAGCGC TGGAACTCAC GAGTGGTACT ACTGGGAAAA ACAATTGGAA    9480

GTTTTTTTAA CAACCCTACC AATTGATTTC AAATTAGAAG AGAGACTGAC TTAGTTTGAA    9540

CTTCAGCATA GGGGGAGTAG AACTAAAATA AAATATGTTT TCACTAGACT TTTCAAACGm    9600
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472

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AAGTAGTAGA ATAGTAATAA AATACTGGAG GAAAGAGAGT AGGAAATGTA CCGTTATCAA      9660

ATTGGCATTC CCACATTAGA ATATGATCAG TTTGTCAAAG AACATGAATT AGCCAATGTA      9720

TTACAAAGTA GTGCTTGGGA GGAAGTTAAG TCTAATTGGC AACATGAGAA GTTTGGTGTT      9780

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GAAAATCTGG CTATTATTGA TAGTTTGCAA CAAATGGGAG TAAGGTGGTC AGGAAAAACG     10080

GAGGAAATGG GAGACACCAT TCAACCTCGT ATTCAGGCGA AAATATACAA GGAAAATTTT     10140

GAAGAAGATA AACTTTCCAA GTCAACAAAA CAGGCTATTC GAACAGCACG AAACAAAGGG     10200

CTTGAGATTC AATATGGTGG ACTGGAACTA TTAGATTCAT TTTCGGAGTT GATGAAAAAA     10260

ACTGAGAAGC GAAAAGAGAT TCATTTGAGG AATGAAGCCT ATTATAAAAA ATTGTTAGAT     10320

AATTTTAAGG ACAAGGCCTA TATCACCTTG GCCACCTTGG ATGTTTCTAA ACGTTCGCAA     10380

GAGTTAGAAG AACAGTTAGC GAAAAATAGA GCCTTGGAAG AGACCTTTAC TGAGTCGACT     10440

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TCCAATAGAT GCTGAGAAAA AAAGTATTAT TCAAGATTTG ACTGATTTAG GTTATCAATT     11280

TGATGGCTTA ACAACAGGTT ACCCAGGTGG AGAACCAGAT TGGTTATACT ATAAAGATTT     11340

AACTGAATTA ACTGAAAAGA GTTTGCTTAA AAGTTTTAGC AAAAAGGGTA AACCCTTGGT     11400
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473

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GAAAAAGGCT GAAACCTTTG GCATTCGGTT GAAAAAGTTA AAACGTGAAG AACTATCGAT    11460

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474

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GCAGATGCTA AAAATCAAGG GGCCAGTGAA TATTGGCTTC TGGGAGATAT TTTTCTTCCT        14880
GGTCCAGGCG CAAATGACTT AGTCGCCCTG CTAAAGGACC TTCCTATCAC AGCAAGTGTT        14940
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475

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CAAATGGTGG CACGTCGCCA GCTGTAGCAA GGACGATTGT CTTTTGAGCG CTAGTCTCTT     16500

TGGGTGTAGC TTGATTCTCA CAGGCAACCA AAAATGGTAG GATAGCTAGT AATAGGCTAA     16560

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(2) INFORMATION FOR SEQ ID NO: 53:

476
(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 3510 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 53:

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GGGATATCCT TATATCCTTG TTCCTGGAAC CATTGTGGGA ATTGCTCAAC AGTTTTTTCA       60

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AGTTCCATCA ACTCTGGCAT ACTTTTCTTG CATGGACCAC ACCATGAAGC CCAAAACTTC      180

AAGTAAACCT TTTTACCCTT AAAATCAGAT AACTTAACTT CTTTGCCATC CATGGATTGC      240

AATGTGAAGT CTGGAGCATC TTTTCCAACA GCAATTTGTT GTACAGTCGT TTGTTGTTTT      300

GGCTGTTGTG CTGCTTGAGT CTTTTTAGTT TCTTCCTCAC CACAGGCCAT CAATACAACT      360

AATGACAAGA GACTTAAGCC AGCAAACATT ACTTTTTTCA TTTGTCCTCC TTTATTCAAA      420

AATTCCAGCT AGAACATTTA CTTGTCCTAA TAGTAACAAA ATTCCCATTA AAACAATGAG      480

GAAACCACCA ATTTTCTTTA GTAGCATCAT ATGACGCTTG ATTTTACTAA AATATGGCAT      540

GACTAGACCT GAAGCTAGTG CCAATACCAA GAAAGGAAGG GCCATGCCaG AGTGTAAATG      600

AGAGTATAAA TCGCTCCTTG CCAAGCGCCA TTGCCTCCAG AAGCCGCAAG TGCTAAAACA      660

GAACTTAAAA CTGGACCAAT ACAAGGTGTC CAACCAAAGC TAAAGGTAAT ACCAAGTAAA      720

AAAGCTGACC AATAACGATT AGAATCTGAT TTTTTAAAGG TAAAACTTTT TTGAACTTCT      780

AATTTCTTCA AATGAAAAAT TTCCATCTGG TGAAGACCCA AAATGATAAT AATAGCTCCC      840

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AGAATAAAGA AAATGAGAGA GATACCAGCG ATAAAGCAAA GTGTTCGAAT CAAGCCTGAC      960

CAGAGAACCT TTCTCCCAAA CAAAGAAAAG CTTTTTGCAC TTTCTTGATC ATCCAATAAA     1020

ATCCCAGCAT AGACTGGCAG AAGAGGAAAA ATACAAGGAG AAAAAAAGGA TAAAACACCT     1080

GCTAGAAAAA CAGAGATTAA AAATACTATC GTTTCCAATA AAGAACCAAC TTTCTTAATA     1140

ATTCTAATCC TATTTTACTA TATTCAATTT TATTTGTAAG CTTTCTGCTA CGCAAAATCG     1200

TATCGGGCAC TATTGGACCA ATCTTTTCTT TTGCTAGTCA AGGCGGATCT TATCCCCCAA     1260

AATAGCCAAA AAGCAACGAC AAGGATTACT CATCGCTGCT TTTGTGAACG AAAATGTCTT     1320

TTAGGTCTGA CATTTCATAA ATCATGTTTT ACTTGAGTTT GTCAAGGATT GCTTTAAGCT     1380

CCTCTACTAG TTTAGTTTCT GTCTCTGCTG AGCCATTTTC TTCTTTCACG AAATCAAGGG     1440

TTTCTTGGAG AAGGTTTTGG GCTTTGGCAA GGACTTTTTT ATCCGCTTTT TCTGCATCTA     1500
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477

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GCTGTCCTAG AACCTTGATC AATTCCGTGC TTAATTGCTG GATTTCTGAC TCTTTCTTAC      1560

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TGAGAGAGTC CAAGGCAGCC CAGCCTTCAC AGACTCTACT GCAGTATGCA GACCTTACTC      1800

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CAAAAAAGTC GCTCGTCATC GTCTCTTCGT AAGTCATTGG AGCGATTAAT TCACCATTTG      2280

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TACTCAAAAT TGAATATCTA TTCAATTTAA GAAAACCGTT CGCTTTCATA TTCTCAGTTA      3180

CTTTGGATAA GTCCTCGAGC TATTAGTATT AGTCCGCTAC ATGTGTCGCC ACACTTCCAC      3240
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TTCTAACCTA TCTACCTGAT CATCTCTCAG GGCTCTTACT GATATATAAT CATGGGAAAT        3300

CTCATCTTGA GGTGGkTtCA CACTTAGATG CTTTCAGCGT TTATCCCTTC CCTACATAGC        3360

TACCCAGCGA TGCCTTTGGC AAGACAACTG GTACACCAGC GGTAAGTCCA CTCTGGTCCT        3420

CTCGTACTAG GAGCAGATCC TCTCAAATTT CCTACGCCCG CGACGGATAG GGACCGAACT        3480

GTCTCACGAC GTTCTGAACC CAGCTCGCGT                                          3510
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(2) INFORMATION FOR SEQ ID NO: 54:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 20986 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 54:

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TCATTGCTCT GGCGCAGGGT CGTGCAAAAG TAAAAAATAT TTCATTTGAA ACAGCCCTAG        180

GCCTAATTGA TTTCTATGAA AAAAATTATG AAAAATTTGA AGATTAATCT TTGGATAACG        240

GCGGATTCTT GACCTTCAAG TAGTAGAGAT AGAGAATCTG CCTTTTCATT TTGAGGACAG        300

CAAAAAGACT GCACGGTTGA TGCAGCCTTT TCTTTTTATT TGAGATAGCG TTGAAGGAAC        360

TCTTTTGTTC GGTCTTCTTT AGGATTGGTG AAGAGGTCTT CTGGTTTACC TTCTTCAGCG        420

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TTCATGGAGA GGGCACGAGC GATGGCCACA CGTTGTTTTT GACCACCTGA GAGTTGTTTT        660

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TCAAATCCTC CGTTTGCATT TGGTTAGCAC CTGTAGTGTA GGTATCCATG TCCATTCTGC       1140
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479

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480

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GGTGGCTTCT CTGGAGGCGG AGGTGGCGGC AGTATCGGTG CCTTTTAAAG AGAGCTACCA      4680
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481

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482

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483

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484

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485

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486

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487

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488

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ATCGTTCCAC AAGATATACC AGCGGGTTAC GAGTTTACGA ATGATAAGCA CTATATTACC      17220

AATGAACCTA TTCCTCCAAA GAGAGAATAT CCTCGAACTG GTGGTATCGG AATGTTGCCA      17280

TTCTATCTGA TAGGTTGCAT GATGATGGGA GGAGTTCTAT TATACACACG GAAACATCCG      17340

TAAAGTGTAG AAATGATAAT ATCTATGTTC TGAACGATAC TTTTAAGAAG TAGCACTCAA      17400

GAAGAGATTT AAGTTTACTT GGTGAAACCT GTTTTATTCG TAAGTAAACT ATCATTGAAA      17460

GGGGAGATGT TTTCGAAAAC TTGCACAGAA AAAGGATTAT TATTGTCATG TGTAATTCAT      17520

TACATTGCTC ACAGTTGATT TTAAGAGATA TGAATAAGGA GAAATCATGA AATCAATCAA      17580

CAAATTTTTA ACAATGCTTG CTGCCTTATT ACTGACAGCG AGTAGCCTGT TTTCAGCTGC      17640

AACAGTTTTT GCGGCTGGGA CGACAACAAC ATCTGTTACC GTTCATAAAC TATTGGCAAC      17700

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AACATTTAAA CTCTCAGGGG CAATGCCGGC AACTGCAATG AAAAAATTAA CAGAAGCTGA      17940

AGGAGCTAAA TTTAACACGG CAAATTTACC AGCTGCTAAG TATAAAATTT ATGAAATTCA      18000

CAGTTTATCA ACTTATGTCG GTGAAGATGG AGCAACCTTA ACAGGTTCTA AAGCAGTTCC      18060

AATTGAAATT GAATTACCAT TGAACGATGT TGTGGATGCG CATGTGTATC CAAAAAATAC      18120

AGAAGCAAAG CCAAAAATTG ATAAAGATTT CAAAGGTAAA GCAAATCCAG ATACACCACG      18180

TGTAGATAAA GATACACCTG TGAACCACCA AGTTGGAGAT GTTGTAGAGT ACGAAATTGT      18240

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TAATAATCCA GATCACGGGA ATACTCCAAA GCCGAATAAG CCAAATGAAA ACGGCGATTT      18600

GACATTGACC AAGACATGGG TTGATGCTAC AGGTGCACCA ATTCCGGCTG GAGCTGAAGC      18660

AACGTTCGAT TTGGTTAATG CTCAGACTGG TAAAGTTGTA CAAACTGTAA CTTTGACAAC      18720

AGACAAAAAT ACAGTTACTG TTAACGGATT GGATAAAAAT ACAGAATATA AATTCGTTGA      18780

ACGTAGTATA AAAGGGTATT CAGCAGATTA TCAAGAAATC ACTACAGCTG GAGAAATTGC      18840
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489

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TGTCAAGAAC TGGAAAGACG AAAATCCAAA ACCACTTGAT CCAACAGAGC CAAAAGTTGT    18900

TACATATGGT AAAAAGTTTG TCAAAGTTAA TGATAAAGAT AATCGTTTAG CTGGGGCAGA    18960

ATTTGTAATT GCAAATGCTG ATAATGCTGG TCAATATTTA GCACGTAAAG CAGATAAAGT    19020

GAGTCAAGAA GAGAAGCAGT TGGTTGTTAC AACAAAGGAT GCTTTAGATA GAGCAGTTGC    19080

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AGGCATTGAG TATACTGCTG GTTCAGGTAA AGATGACGCT ACAAAAGTAG TCAACAAAAA    19440

AATCACTATC CCACAAACGG GTGGTATTGG TACAATTATC TTTGCTGTAG CGGGGGCTGC    19500

GATTATGGGT ATTGCAGTGT ACGCATATGT TAAAAACAAC AAAGATGAGG ATCAACTTGC    19560

TTAAGTAAGA GAGAAAGGAG CCATTGATGA CAATGCAGAA AATGCAGAAA ATGATTAGTC    19620

GTATCTTCTT TGTTATGGCT CTGTGTTTTT CTCTTGTATG GGGTGCACAT GCAGTCCAAG    19680

CGCAAGAAGA TCACACGTTG GTCTTGCAAT TGGAGAACTA TCAGGAGGTG GTTAGTCAAT    19740

TGCCATCTCG TGATGGTCAT CGGTTGCAAG TATGGAAGTT GGATGATTCG TATTCCTATG    19800

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CAAATGGTCT TTACTATGTT CGCTCTATTA TCCAGACGGA TGCGGTTTCT TATCCAGCTG    19980

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AAAGCGGACA CTATACTCCT GTTCTTCAAA ATGGTAAGGA AGTAGTTGTA ACATCAGGGA    20520

AAGATGGTCG TTTCCGAGTG GAAGGTCTAG AGTATGGGAC ATACTATTTA TGGGAGCTCC    20580
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490

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AAGCTCCAAC TGGTTATGTT CAATTAACAT CGCCTGTTTC CTTTACAATC GGGAAAGATA    20640

CTCGTAAGGA ACTGGTAACA GTGGTTAAAA ATAACAAGCG ACCACGGATT GATGTGCCAG    20700

ATACAGGGGA AGAAACCCTT GTATATCTTG ATGCTTGTTG CCATTTTGTT GTTTGGTAGT    20760

GGTTATTGTC TTACGAAAAA ACCAAATAAC TGATATTCAA TGTACATCAT TATGAATAGG    20820

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ATGTGGCATG AATCATCAAT AACGGATATG AGGCTGGGCA GATTGTGCCA GCCTCATTGT    20940

GGGTTATTGT TTGTAAAACG ATAGGACTGG TCTGGTAATC ATTTTA                    20986
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(2) INFORMATION FOR SEQ ID NO: 55:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 21040 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 55:

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CCCAGCAAAA AGCCATCCGA AGATGACTTT TTTGCTATTT AATTTCTGTA TAAGTTACTT      60

CCAAGCCACG CTTAACAGCT GGACGATTGG CAATTTTTTC TGCCCATTTT ACTAGATTTT     120

GATAACTTGA GGCATCCAAG AATTTTGCAG AACCTTGGTA AAGATTTCCT TGAACTAACT     180

GTCCATACCA AGACCAGATA GCAATATCTG CAATCGTATA GTCATTGCCT GCAATATAAG     240

GTTTCTGAGC CAATTCCTTA TCCAATAAAT CCAACTGGCG TTTCACTTCC ATCGTAAAAC     300

GGTTAATAGG ATATTCCAAT TTTTCAGGAG CATAATTGAA GAAATGTCCA AATCCCCCAC     360

CTAGAAAAGG TGCTGCACCT GCTTGCCAGA ATAGCCAATT CAAAACTTCT ACCTTTTCCA     420

CAGGATTACT TGGTAAAAAG GCTCCAAATT TCTCAGCAAG GTAAAGAAGA ATATGAGCAG     480

ACTCAAAGAC TCTTACGTTT TCAGTACCTG ACTGGTCCAA TAAGGCTGGA ATCTTGGAAT     540

TTGGATTGAG CTTCACAAAG TCTGATCCGA ATTGATCCCC ATCCATGATA GCAATCTTAT     600

ACAAGTCGTA AGCCGCTTCC TTAAAACCAG CTTCTAGTAA TTCTTCCAAT AAGATAGTAA     660

CCTTCACACC ATTTGGTGTT CCCAGTGAAT AAAGCTGAAA AGCTTGTTCT CCTTTTGGCA     720

AGTTTTGTTC GAAACGGGCA CCTGCTGTTG GTCTGTTTAG CCCCGTAAAA GCTCCTTGAT     780

TACTAGCTTC ATCCTGCCAT ACGGTCGGTA ATTGATATGC TGACATCCGA AACCTCCCTT     840

AAATCGCATT CTTGTCAAAA CCGAGTTTGC GTTGAATAAA CTTAACGATT TCGACGATGA     900

TAATCATTGA GAAGCTTCCA GCCATAACAA TTCCCCATTG TGACAAGTCT AGTTTGGTTA     960

CGTGGAAGAT TCCTTCAAGC GGTTCTACAA CGATTGTTGC CATGAGAAGG ATAAAGGATA    1020
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491

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CCAAGATGGA CCAGTTAAAG GTCTTAGACT TGAATGGGCC AACTGTCAAG ATGGATTGGT      1080

AGACAGACTT GACATTGTAG GCATGGAAGA GCTGAATCAA ACCAAGGGTT GCAAAGGCCA      1140

TCGTTAGGGC ATCTGCATGA ATAGCATGAT TGTCACCCAC ATGAACTGGG TAAGCAATCG      1200

CAAGGCCATA AACACTCATA ACAAGAGCTG CTTGGAGTAC ACCTTGATAA ATGATAGAAC      1260

TCAAAACACC ACCTGAGAAG AAGCTTGCCT TGCGTCCACG TGGTTTATGA TTCATGACAC      1320

CAGGTTCCGC AGGTTCAACA CCAAGAGCGA TAGCTGGGAA GGTATCCGTT ACCAAGTTGA      1380

TCCACAAAAG ATGAACCGGC TGTAAGACAT CCCAACCAAA CAAGGTTGAT AGGAAGATGG      1440

TTAATACTTC AGCAGTATTA GCAGAAAGTA GGTACTGAAT AGTCTTTTGA ATGTTTGAGA      1500

AGACCTTACG TCCTTCTTCC ACTGCGACGA TAATAGTCGC AAAGTTATCA TCTGCAAGAA      1560

TCATATCAGA AGCCCCCTTA GAAACCTCTG TACCAGTGAT TCCCATACCG ATACCGATAT      1620

CGGCTGTTTT CAGAGCTGGC GCGTCATTGA CACCGTCACC TGTCATGGCA ACGACTTTAC      1680

CTTGTTTTTG CCAAGCCTTG ACGATACGAA CCTTGTGTTC TGGAGACACA CGGGCATAAA      1740

CAGAGTATTG ACCAACGACT TTTTCAAATT CTTCATCTGA CAGTTCATTG AGTTCAGCAC      1800

CAGTTAAAAC GTGACCTTCT GTATCGTTTG CGTCAATGAT TCCCAAACGT TTGGCAATGG      1860

CTTCCGCTGT GTCTTGGTGG TCACCTGTAA TCATAATTGG ACGGATTCCC GCTTCCTTAG      1920

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TAAAAATTAA ATCATTTTCA AGCTCTTCAG AAGTGAGATT TTCTGGAATA CTATCGATAA      2040

TCTTATAAGC ACCTGCAAGG ACACGCAAGG CTTGATGAGC CATTTCAGAA TTGTTTGTAC      2100

GAATGAGATT TGTAACCTTC TCATCAATCG GAGCAATATC CCCAGCCTTA TCACGAAGAA      2160

GACAACGTTT TAAGAGTTGG TCTGGCGCAC CCTTGACTGC TACAAGGAAA CGACCATCTG      2220

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CAGTCTTATC AGAAGCGATG ATTTCAGTTG AACCAAGTGT TTCAACTGCT GGCAACTTAC      2580

GAACGATGGA ATGTCGTTTG GCCAAAACTT GAGTACCAAG AGAAAGAACG ATGGTAACGA      2640

TAGCAGGAAG TCCTTCTGGA ATGGCTGCAA CGGCAAGGGC AACAGAAGTC AACAACTCAC      2700

CAAGTGGATT TTTCCCTTGA ATGAAGACAC CCACTACAAA AGTAACAAGG GCAATGACCA      2760
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492

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AGATAGCATA GGTCAAGACC TTAGAAAGGT TGTTCAAATT TTGTTTGAGT GGTGTATCAG    2820

TCTCATCCGC ATCTTGAAGC ATACCAGCAA TATGACCAAC TTCAGTGTAC ATACCTGTAT    2880

TGACAACAAC ACCCATCCCA CGACCATAGG TTACGTTTGA GTTTTGGAAG GCCATGTTGA    2940

CACGGTCACC AATACCAGCA TCTGTCGCAA GCTCGACTGA CAAGTCTTTT TCGACTGGTA    3000

CAGATTCACC TGTCAAGGCT GCTTCTTCAA TTTTAAGAGA GTTGGCTTCT ATCAAACGTA    3060

GGTCCGCTGG TACCACGTCA CCTGCTTCAA GGGCAACGAT ATCGCCTGGT ACCAATTCTT    3120

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TGATGATAAC CACAGCTAGG ATGATAATGG CATCTGCGAT ATCTTCCCCA CCAGAAGTCA    3300

CGACTGACAA GATTGctGCC GCAACTAGGA TGATAATCAT CAAATCCTTA AATTGCTCGA    3360

TGAATTTGAC CAAGATTGAT CGTTTCTCGC CTTCTTCGAG TTCATTGTGC CCAAATTCGG    3420

CAAGGCGCTT TTCCGCCTCA CTTGATGACA AACCTTGCTC GGTCGCATCC ACAGCCTGCA    3480

AGACCTCTTC AGGGCTCTGA GTATAAAACG CTTGGCGTTT TTGTTCTTTT GACATGTGTC    3540

TCCTCCTTGA CATTGTGTGC AAAACAGACT CTCTTTCTGT CATAGCTTTT CACGACAAAC    3600

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GGTGGCCGAT GGTTTTAATA ACGTATCGGA CATCATTGGA AATGTGGCCC TCTTAATCGG    4020

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AAACTGGTTG CTATCATCAT CACTTTCTTT ATCTTGAAGA CTGCCTATGA TATCTTCATC    4440

GAGTCTTCCT TTAGTCTTTC AGATGGCTTT GACGACCGCC TGCTCGAGGA CTACCAAAAG    4500

GCTATCATGG AAATTCCCAA AATCAGCAAG GTCAAATCGC AAAGAGGTCG CACCTACGGT    4560
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493

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AGCAACATCT ACCTGGATAT TACACTAGAG ATGAATCCTG ACTTGTCTGT TTTTGAAAGC     4620

CATGAAATCG CGGATCAGGT CGAGTCTATG CTGGAGGAGC GTTTTGGCGT CTTTGATACC     4680

GATGTCCATA TCGAACCAGC ACCTATCCCT GAGGATGAAA TTTTAGACAA TGTCTATAAA     4740

AAATTGCTTA TGCGTGAACA ATTGATTGAC CAAGGAAACC AACTAGAAGA ACTCTTGACT     4800

GATGATTTTG TCTATATTCG CCAAGATGGA GAGCAGATGG ATAAAGAGGC TTATAAGACC     4860

AAAAAAGAGT TAAATTCTGC TATCAAGGAC ATTCAAATTA CTTCCATCAG TCAAAAAACC     4920

AAACTCATCT GCTATGAGTT AGATGGTATC ATCCATACCA GTATCTGGCG TCGCCACGAA     4980

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CGGGATTTTT CTATTCTTTT ATACTCAATA AAAATCAAAG TGCAAATTAG GAAGCCGGTC     5100

ACAGGCTGTA CTTGAGTCGG CAATGTGAAG CCGACATAGT TTGCACTTTG ATTTTCGAAT     5160

AGTCTTAACT ATCAAATTCA CTGAGATACT CATAGCGTTC GTATTTTTCA AGGAGTGCTT     5220

CATTTTTCTC ATCCAATTCT TTTTGGAGAG TAGCCAGCTT ACCAAAGTCA GAGCCGTTAG     5280

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TACTTGCCCA CTCCTGCTTT TCTTGGTAGG TCATGCGTTT CTTGTCTTCT CGAACCTTGA     5400

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CATCAAGATA GTCGGTGTAA TGACCAAAGA AAGGACGAAT CTTGCCATCC TCAAAAGCGA     5520

GAATCTTGGT CGCTACCTTA TCCAAGAAAT AGCGGTCGTG ACTGACTGTT AAAACGGGAC     5580

CTGCAAAACC TTGCAAGAAA TTCTCTAAGA CTGTCAAAGT TGCAATATCT AGGTCATTGG     5640

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GATTGATACG AGCTTGTTGC TTGGTCGCAC GCGCCTGCGG TTGTCTGCGC ATCCAGGCCA     6240

ATTCTTGTTT GTAGAGTTGT TCTTTTTTGT GAAGAAGAGC CGCGTCGCGC TCATCCTGTT     6300
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494

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CCGCCTTTAG GCGAACATAG TCCTGGTAAT TTCCCTGGTA CTCGGTCAAG CCTGCACGAT    6360

CCAACTCGAA AATCCGTGTT GACAAAGCGT CTAAGAAATA ACGATCGTGA GTGATAAAAA    6420

GGACGGTCTT CTTAGAATTT TTCAAAAAGA GGGTCAGCCA CTCAATAATC GCAATATCCA    6480

GATGGTTGGT CGGCTCATCC AAAAGCAAGA GGTCGTGGTT GCCAAGTAAG ACTTGTGCCA    6540

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CCATCTCTGC CATGACACGT TCCAAACGCG CCTGCTTGTC CTCACTATAG TCGAGCATAA    6720

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TGTTCGCGGA AAAATCTGCT TGGTCTCTTC TGGATAAGAA GACGTCGCAA TATCCACATC    8100
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495

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GTGGATAGGG CTATGGAGAA GGGCATCTCG AACAGAGCCC CCAACAAAAT AAGCCTCAAA      8160

GCCTGCTTCT TTAATTTTTT CTAATACTGG TAAAGCCTTC TGAAATTCAG AAGGCATTTG      8220

CGTTAATCTC ATAATAAGTG TTCTAATCCA TAGACAAGCT CATGACGCTT GACAACTTCT      8280

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CGGCTGATTT GAATGGCTAG CTTATCCTGA ATGCTGGCAA AATCATCGCC CTGATCACGC      9720

CAATTAAAGA CGCTTTCAAC CATGATGCCT AGGGGAGCAC TTGTAATCAA AGTGTCTGGG      9780

AAAGCAATGG TTAAGCCCTC ATAGTCATCG ACCATATACT GGATATTTTG GTAAAAACCT      9840
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496

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GTTAAGATCT CATCTAACTT GGCAATACTT GGTTGACTGG TCTTAGGCAA TTCAGAAGCC    9960

TGAGCCATTT TTTGGTAAAA TTCCTCAGCA GACAGATTGA TGCCTTCGAC ATATTCCTCA   10020

CCATCAATAT TGACAGGAAT ATCCAAGACA AACAAGTCTT CTCTTTGCAA GATCTCTGCA   10080

CTGAGATAAG CAGAGGAATC TGTGAAAACA GCTAATTTCA TATTAGAACT CCAAATTAAT   10140

TCCTGGTAAG TCTAATGCAA TTTCAGTCAC TTCGTAAGTC AAACGATTGA GCATGTTCAA   10200

ACATGGACGA GCCAAGGTTT CCACCTCTTC TTGGTTCAAT TCACTTGGTT CATTGACAAT   10260

ACGGCCATCG ATATGGTTTA CTTGTGAGAT TGTTCCACTA ATGACAAACT TATCAAATAC   10320

AATCATAAAG CTCAAGATGA CAATCAAGGA AGTCACTTGA TTTTCTTGGT CATGTTGGAG   10380

CAATTGGAAA TTCACATCCA CCTTGGTTTC AGGAGCTCCA TTTTCATTTT CCCATTCAAA   10440

ATTACGCGCA TCAAAATGAT ACTGACTAAC AAATTCTTGT TCACGTTTAA GATTCATGTC   10500

TTTCTCCATC GGCTACAATA TTATAAGCTA TTGTACCATA ATTTTTTATT TTCATCTAGT   10560

TTTCTAGGAT TTAGTCAATC CCAATTTCAG CACGAACTAC ATCTGTGATG GTATCAACAT   10620

AGTAGTTTAC TTCTTCTGTT GTAGGCGCTT CTGCCATAAC ACGCAAGAGG GGTTCTGTTC   10680

CACTTGGACG AACAAGGATA CGGCCGTTCC CCGCCATTTC TTCTTCCATC TTCTCGATGA   10740

TGGCCTTGAT AGCTGGCACT TCCATGGCCT TTTCCTTCAT GACGTTTTCC ACTCGGATAT   10800

TAACTAATTT TTGTGGATAA ATCGTTACTT CTGCCGCCAA CTCTGATAAG CTCTTACCAG   10860

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AATCCATCAA GATAACGTGA CCAGACTGTT CACCACCAAG GTTGTAGCCT GATTTTCTCA   10980

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TCAAGGCCTT GTGGAAACCA AGGTTAGACA TAACAGTTGT CACAATTGTA TTTTGAGCCA   11100

ATTGTCCTTT TTCAGAAAGG TATTTTCCGA TGATGTACAT AATCTTGTCA CCATCAACGA   11160

TGTCACCATT CTCATCAACA GCAATCAAGC GGTCACTGTC TCCATCAAAG GCCAAACCAA   11220

TAGCTGACCC ACTTTCTTTG ACCACTTCTT GAAGGGCTTG TGGATGTGTT GAACCAACAT   11280

TAAGGTTGAT GTTAAGACCG TCTGGTGTTT CCCCGATAAC CGTCAATTGG GCACCAAGGT   11340

CTGCAAAGAT TTGACGGGCA CTGGTAGAAG CTGCTCCATT AGCTGTATCC AAGGCAACCT   11400

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TGGATAATCT ACCAAAATTC CTAAGCCTTC TGCACTTGGA CGAGGAAGAG TGTCTTCCTC   11520

AGCATCTAGC AAGGCTTCAA TTTCTGCTTC TTTTTCATCA TCTAGTTTGA AGCCATCACC   11580

GCCAAAGAAC TTGATTCCGT TATCAAGGGC TGGGTTGTGG CTAGCAGAAA TCATGACACC   11640
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497

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GGCACTTGCT CCTTCAGTTT CAACCAAGTA AGCTACTGCT GGTGTTGCAA GGACACCAAG   11700

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CAAACGTTCC AAACCAGTCC GAATCTCTGG AGAGAAGATA ACAACCGCCG CAATAACCCC   13320

ATAAGTAATA ATTTGATTGA TTAACCAAGA AATCGTAGTC AAACCAATCA TATTTGCAAG   13380
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498

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AATAGCTTTT GTAAAATGGT ATAAAATATA AGCAACAATC AAAATATCAA TCAGATTGAT    13500

AGCTATCGTC CATGGACTTG CAAACAAACT GGTCCAATAT TGCAGATTGG ATAATTGTTG    13560

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GCATTTTTTT CCCTATCCTA GTCCATTTTA CATTGAACAA AAATATGATA AAATAAACTG    13680

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AAACTGTTGG AGAAGGGAGG CAATTCCTTG CGCGTGGTCC AGATAAACAG AACTGATTTC    15180
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499

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GCCAAAGAAA GAGTCTGCCA AGTGCAAATC ACTTAACAAA TCCTGCACCT TTTCATCTGT   15360
AAAAACGGTA TAGACGCGAT TCTTGCGAAG ATTGCTCCGT TGGTGGTGAC GAATTTCAGA   15420
TTTGATTTCA TAGAGATGGA GAAAGGACTC ATAGAGGTGA CGGGCCAGTT TGGCATTTTC   15480
TGTCACAACT GACAAAGTCA AGCCCGAAGT CGAGAGACCG ATGCTACCAG ACATTTTGAT   15540
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GCGATTTCCA CATCTTTTTC CCGCAGACTT TTTAGAATGA CGGGACTTCC AGTCCCTCCA   16560
CCAATCACCG TTATCTTTGG TTTTCTCATG AACGGTTTAC CGTTTCCTTT CTGCGGTCTT   16620
TGTCGCGATG CCCTTCATTA ACAGACCAAT TCTTGGATAA GTCCTGCGCC AAGCGTTTAG   16680
CAAATGCCAC ACTACGGTGT TGTCCACCCG TACATCCCAT GGCAATGGTC AAAACGGACT   16740
TACCTTCCTT TTGGTAACTT GGCAGAATCG GCTCAATCAA GGCCAATAAA TGTTGATAAA   16800
AGTCTTCTGA CTCAGGATGG TTCATGACAT AATCATAAAC AGGTTCATCC ACACCCGTTT   16860
GGTTTCTCAG TTCTGGTAAA TAATAGGGAT TTGGCAAGAA ACGGACATCA AAGACCAAGT   16920
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GTTCAGTCGT ATCCACCACA TTTTGGCTCA TATTTTTCAA AGGTGCCAAG AGTTCACGTT      17100

CCAACTTGAT TCCATCTAAA ATACGACCGT CTGCTGCTAG TGGGTGACTC CGTCTGGTTT      17160

CCTTGTAACG AGCGACCAAT TCCTTATCAG CCGCATCCAA AAAGAGGATT TTGAAATCCA      17220

AACCATCTTG ATTTTCCAAC TCATCCAAAA CAGCTTGAAT CTCTGAAAAG AAAGAACGGC      17280

TACGCATATC CACTACCAAG GCCAACTTAG GATTGTCTTC CTTAATTTCA ACCAGCTGCA      17340

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TCTTCCGTTC GATTGCTTTA TTAGCAATCT CTTGAAGGGC TTCGTCGTCA AATTCCAACT      18720
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501

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TGTATGAGCT GTTTTCGTCA ATCGCCTTAT TATTTTGACC AAATCCGATG ACTTTTTCAC    18960

CCAGACGTTG TTTGACAATT TCTTCAATAC CATCAAAAGC ACCACCCACG ATGAAGAGGA    19020

TATTTTTTGT ATCCACTTGA ATCATCTCTT GTTGTGGATG TTTGCGTCCA CCTTGAGGCG    19080

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GCATGAATAC TATTGACCAG ATTGGTAAAG GCATTTAACC AAAGGAGGAT AGAAAGCCCG    19860

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GTGAATAGAC CAAATAAACT CCGTTCCATT AGACTTCCTT TCTCTTGCGG TATTGGATGG    19980

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GAGTTGTTTC TTTAAAGTGC TGCAATTCTG CTGGCAAATG CCAAGGCAGA CGATTTTCCT    20400

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502

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CATCCTTTTC ACTGATAGTA CTATTTTATC AAAAAACTCA AAAAAAGACT GGTTTGGAAT          20520

AGCTTACAAA ATAGAAAAAA TCTGTAAGAA ATTTCCTACA GATTTATCTA TGTTTCCTTA          20580

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TTTCAGTTTT AGCGCCTGCA AAGATACCGT TTGTCACATC GTCACCTTCT TCATCAGTGA          20700

CATCCAAACC TTTTTGGAAA AGTTCTGACA AGTAACGGTA GATAACAAGA ACACGTTCCA          20760

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CCAATTGACC GTCAAGAGCT TCCATGTACT CATCCATTTT TGGATGCCAT ACAAGGAAAC          20940

CACGACCATG CATATACCAG TGCACTTGGT GCAAAGCAAC GTGAGCTACA TACAAATCAG          21000

CAACAGCTTG GTTCAAGACT TCCTTTGTTT TTGCCAATGC                                21040
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(2) INFORMATION FOR SEQ ID NO: 56:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2387 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 56:

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TTGTTTAGTG AGGAGTACTG TTTATTTTTA AATACAAAGA ATGTTACTAA AAACGGATTT           240

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CTTGAGCGTT ATGATATAGT CTTGACAACA AGAGGTACTG TTGGAAATGT AGCGTACTAC           360

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CTCCCCCTCC CCCCACTAGC CCTCCAAAAT GAGTTCGCAG ACTTTGTAGT CCAGGTCGAC           600

AAATCACAAT TGGCAATCCA AAAATCTCTG GAAGAACTTG AAACTTTGAA GAAATCTCTG           660

ATGCAGGAGT ATTTTGGCTG ATATTCTGCC ATTGTAATTA CGGTAATGAT TTGTTATAAT           720

ACTTCAAAGG AGGAAATCAG ATGGTAGTAA AAACAAGAAA ACAAGGAAAT TCAATCACCA           780

TTACGATTCC AAGTGAATTT AATATTCCAA GTGGTGTTAA ATACGAAGCG AAATTGTTAC           840
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503

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CAAGTGGTGA GATTATCTTT ACTCCTGAAG AATTGGGGCA GCAGGTTTCT TATGTATCTG    900

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CTTTGGTGGA AAAATGACAA TCTATTTGAC AGAAAAGCAA ATTGAAAAAA TAAATGCTTT   1020

AGCAATTCAA CGGTATTCTC CAAATGAGAA AATTCAAACA GTTAGTCCTT CTGCCTTAAA   1080

TATGATTGTG AACTTACCAG AACAATTTGT CTTTGGGAAG CCTCTTTATC CAACAATTTT   1140

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AAACTCGGCA TACAAAAGGT TCACCCACAT AAGTTCAGAA GAACTTTAGC GACTAAGGCA   2340

ATTGATAAAG GTATGCCTAT CGAACAAGTC CAAAAACTGC TAGGTCA              2387
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(2) INFORMATION FOR SEQ ID NO: 57:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 10669 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double

504
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 57:

ATATTAAAGC GACTTTCTGT GCGCTAGGGA AAAATGTTCC TGGGAATGAG GACTTGGTGA   60

AGAGGATAAA ATCTGAAGGT CATGTTGTTG GAAACCATAG CTGGAGCCAT CCGATTCTCT   120

CGCAACTCTC TCTTGATGAA GCTAAAAAGC AGATTACTGA TACTGAGGAT GTGCTAACTA   180

AAGTGCTGGG TTCTAGTTCT AAACTCATGC GTCCACCTTA TGGTGCTATT ACAGATGATA   240

TTCGCAATAG CTTGGATTTG AGCTTTATCA TGTGGGATGT GGATAGTCTG GACTGGAAGA   300

GTAAAAATGA AGCATCTATT TTGACAGAAA TTCAGTATCA AGTAGCTAAT GGCTCTATCG   360

TTTTGATGCA TGATATTCAC AGTCCGACAG TCAATGCCTT GCCAAGGGTC ATTGAGTATT   420

TGAAAAATCA AGGTTATACC TTTGTGACCA TACCAGAGAT GCTCAATACT CGCCTAAAAG   480

CTCATGAGCT GTACTATAGT CGTGATGAAT AAGCAAGAAA AAATAGGTCT GTTAGATATT   540

TGACAGACTT ATTTTTTACA GAATATAGTA CTACTTAAAA AATGTTTTAT GCTATAATTG   600

ATGAATAAAA TAGAAGGAGA AGCATATGAA TACCTATCAA TTAAATAATG GAGTAGAAAT   660

TCCAGTATTG GGATTTGGAA CTTTTAAGGC TAAGGATGGA GAAGAAGCCT ATCGTGCAGT   720

GTTAGAAGCC TTGAAGGCTG GTTATCGTCA TATTGATACG GCGGCGATTT ATCAGAATGA   780

AGAAAGTGTT GGTCAAGCAA TCAAAGATAG CGGAGTTCCA CGTGAAGAAA TGTTCGTAAC   840

TACCAAGCTT TGGAATAGTC AGCAAACCTA TGAGCAAACT CGTCAAGCTT TGGAAAAATC   900

TATAGAAAAA CTGGGCTTGG ATTATTTGGA TTTGTATTTG ATTCATTGGC CGAACCCAAA   960

ACCGCTCAGA GAAAATGACG CATGGAAAAC TCGCAATGCG GAAGTTTGGA GAGCGATGGA   1020

AGACCTCTAT CAAGAAGGGA AAATCCGTGC TATCGGCGTT AGCAATTTTC TTCCCCATCA   1080

TTTGGATGCC TTGCTTGAAA CTGCAACTAT CGTTCCTGCG GTCAATCAAG TTCGCTTGGC   1140

GCCAGGTGTG TATCAAGATC AAGTCGTAGC TTACTGTCGT GAAAAGGGAA TTTTATTGGA   1200

AGCTTGGGGG CCTTTTGGAC AAGGAGAACT GTTTGATAGC AAGCAAGTCC AAGAAATAGC   1260

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TTTACCACTT CCAAAATCTG TCACAACCTC TCGTATTCAA GCTAATCTTG ATTGCTTTGG   1380

AATTGAACTG AGTCATGAGG AGAGAGAAAC CTTAAAAACG ATTGCTGTTC AATCGGGTGC   1440

TCCACGAGTT GATGATGTGG ATTTCTAGAA AATCATAAAA AGAATTGTAC ATTATTCTAA   1500

TTTTTGATAT AATAGTCAGC AGGAAAGAAA GTCTTATGGC GTTCTTCAAG CGAGCTTGGG   1560

ATAGTGGGAG CCAAGTAGGG CAAAATAAAG GGCTGGCGCT TTCTGTAGTA TTTTCAAAAA   1620

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CAATGAAGTA ATAAATTAGG GTGGAACCGC GTTTCTGACG CCCCTAGGTT AAATCAACCT    1680

AGGATTGTCA GATGTGGTTC TTTTGCTTAT TCAGTCTATT GTGTGAAAGA AAGGAGAGCC    1740

GTGGACAACC TTTATCTTGT AAAAGACGAT AGTCAACTAG CTACATTTCG TGATTTTGTA    1800

GTAAGAAATA CTGAAAAGTT GAAAGATTAT CAATCTTTTT TAAAGAATGA ACTTGCAGTC    1860

TGTGATTTAC CGCAAGCTGT TATTTGGTCA GATTTTAATG CTGCTACACA GATTATTAGG    1920

GAAAGTGCTG TTCCAACCTA TACAAATAAT AGACGAGTGG TTATGACGCC TGATTTAGCT    1980

GTTTGGAAAG AATTGTATTT GTATCAGTTG ATGGACTACG AGTGTTCTGA GCAAACTCAA    2040

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TCCACGCTCA GCACTAGAGT GCCTGAGCTA GACGCAGTAC TAACTCGTCT TGCCTCGTAT    2640

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ACTGGTTCAG CTGGTCTTGG TTGGGAAGTT TGGCTTGACG GAATGGAAAT CACTCAGTTC    3300

ACTTATTTCC AACAAGTCGG TGGATTGGCA ACTGGCCCTG TGACTGCGGA AGTTACCTAT    3360
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GGTTTGGAGC GCTTGGCTTC TTACATTCAA GAAGTAGACT CTGTCTATGA TATCGAGTGG        3420

GCTGATGGTG TAAAATACGG AGAAATCTTT ATCCAGCCTG AGTATGAGCA CTCAAAATAT        3480

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TATATCGCTC GTATCCGTAA CTTGGCCCGT GTCGTAGCCA AAACCTTTGT CGCAGAACGC        3720

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GCAAACTGGA AAATAAAAAG ATACTTTTCG GAGAAAAAAC ATGACAAAAA ACTTATTAGT        4020

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CACTGTACTT TTGGCAGAAA AAGCTAGTTT GTCAGTGGAT GAAACAGTTG ACCTTGCTCG        5160
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507

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TGCAGCAGCC ATTTACAAGT TTGACTTGTT GACAGGTATG GTTGGTGAAT TTGACGAACT        5220

CCAAGGAATT ATGGGTGAAA AATACACCCT TCTTGCTGGT GAAACTCCAG CGGTGGCAGC        5280

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CGGCGCAGTT CTAGCCATTG CAGACAAATT GGATACGATT TTGAGTTTCT TCTCAGTAGG        5400

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CCAGTCAAGC CATGGTTGGA AGTTAAAGAC GATTTCATTG ATACCAGCGT ATGATCCATC        6780

AGGATAGTAC ATTGCTTGGT AGTTGTGAGT GTTGATAACA CCTGCAGGAG AACCTGGAAC        6840

GATCGTACGG ACGTATTCTT GGTTTCCGTT GCGAAGTGTT CCGATAACCC ACTCTACGTT        6900
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CTTCATACGT GCTGGTGGAA GAGAACCATG AACAGTCGAC ATACGGCTAC CTGATTGAGG    6960

TGGTACACGT TTAGCGAACA TAGTGTCTGG ATCTTGGTGA GCGTTGTTGT AGTAGAGGAA    7020

TTGGTTGTTG TCGTCAGCGT ATGTCAATTC AAATGGCATA GCTTTCAAGA ACATATCAAT    7080

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AGTGAATGCT GCAACTTTTT CTACCCATTC TGGATCGTCA GGGTCAACTT CTGTGATGGT    7200

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TTTCGAAACG ACTCCTACGT ATTTAACAAA GTTATCTAAG CAAGTTTCAA GGAATTTAAC    7320

AGTGCCTTCG TTGGTGATAT TTCCGTTGTT ATCAAAAGCT TCCTTAGCTT TACCAAGAAG    7380

GAATTCGTTA CCTGGAAGCG TGTAGGCATT AACACCTGGA GCATCAAGGA TTTTACGAAG    7440

GTGAACTTGA GCACGTGATG TTCCTTGGTC ATAGTATGAT GCACCCACAA TCATAACAGG    7500

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AAGTAATTCT TGTGCATTAC GTAATTTTTC TGTGATTTTT ACAAAGATAC GGAAGTCATC    7920

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TCCAACAATA GCAATAAGTT TTAACATGAG ATTTCCTTTC TCTTTTTACA TAATACAATT    8460

TTAAAATTCC ATTGAAACAG TTGTCTCTAT AGAGTAGGAA TTCCTGAAGA ACAGCTTAGG    8520

TGGCCTTCTT TATCGATGAG GATGACTTCG ATGCCCTCCA AACTTTCGAC TTGCCAGAGG    8580

ATAGAAGCAG GTCTTTCTCC AAAGAGTCGA GTCGTCCAGA TTTCGCCATC GACTGATTTA    8640

TCAGAGATGA TTGTTAGACT CGCTAGTTCC GTTTCAACAG GATATCCTGT TTGACTGTCA    8700
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AAAATGTGAT GGTAATCTTG TCCATCGACG GTCAGGTGAC GTTCATAAAT GCCTGAAGTC    8760

ACGACAGATT TATTGACAAC AGGGATGGTC ATTAAATGAT TTCCCCTAGG ATTGGCTGGG    8820

TCTTGAATCC CGATTTGCCA TGGGTTATCC CCTCTTGCCT GATTTTTTCC AATGGTCAGG    8880

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ACCTTATCCG CACTGTATCC TTTGGCTAAA CAACCTAGAT CGATCTTCAT TCCTTTCTGT    9000

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TCTTTGAGCA AGTCAAAGGA TTTTTGGAGA AAGATATCGG CTTGCTCATC CACTAATGAA    9360

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CACACAAATG ATGGCGAAGA ACTTGGAAGA TCACAACATC CGCTTGGCTC TAGGTCAAAC    10380

TGTTAAAGCA ATCGAAGGTG ACGGTAAAGT TGAACGCTTG ATTACTGACA AAGAAAGCTT    10440
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                                  510
TGACGTGGAT ATGGTTATCC TTGCAGTTGG TTTCCGTCCA AACACAGCCC TTGCAGGTGG      10500

TAAGATCGAA CTCTTCCGCA ACGGTGCCTT CCTTGTAGAC AAGAAACAAG AAACATCTAT      10560

CCCAGACGTT TACGCTGTTG GTGACTGTGC GACTGTTTAT GACAATGCTC GTAAAGATAC      10620

AAGCTATATC GCTCTTGCTT CAAATGCTGT GCGCACTGGT AACGTTGGT                  10669
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(2) INFORMATION FOR SEQ ID NO: 58:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 7542 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 58:

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CGCGCTAATA GATACTTTAT GATAGAATAA AGAACAAGAT TGACAAGTAA GAGGAAACAT        60

TATGCAAAAT CAAACACTCA TGCAATACTT TGAATGGTAT CTGCCCCACG ACGGTCAACA       120

CTGGACGCGT CTGGCTGAAA ATGCTCCACA CCTAGCTCAT CTGGGGATCA GTCACGTCTG       180

GATGCCACCA GCCTTCAAGG CAACCAACGA AAAAGATGTC GGCTATGGGG TCTATGACTT       240

ATTTGACTTA GGAGAGTTCA ACCAAAAAGG GACTGTCCGC ACCAAGTATG GTTTCAAAGA       300

AGACTATCTT CAAGCCATTC AAGCCCTTAA AGCACAGGGA ATTCAACCTA TGGCCGATGT       360

AGTTCTCAAC CACAAGGCTG CTGCCGATCA CAGGGAAGCC TTTCAGGTTA TCGAAGTTGA       420

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TACCTTCGAT GGTCGCCAAG ATACCTATAA TGGCTTCCAC TGGCATTGGT ACCACTTCAC       540

CGGTACAGAC TACGATGCCA AACGCAGTAA ATCTGGGATT TATCTGATCC AAGGGGACAA       600

CAAGGGCTGG GCCAACGAGG AATTGGTCGA TAACGAAAAC GGAAACTACG ACTACCTCAT       660

GTATGCCGAC CTAGACTTTA AACATCCTGA AGTCATCCAA AACATCTATG ACTGGGCTGA       720

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AGCTGGCGCA AACTATGACC TTCGTGGCAT TTTCACAGAT AGCCTGGTTG AACTCAAGCC      1020

TGACAAGGCT GTGACTTTTG TCGACAACCA CGATACCCAA CGAGGACAAG CCCTTGAGTC      1080

TACCGTTGAA GAATGGTTCA AGCCAGCAGC CTATGCCCTC ATTTTGTTAC GCCAAGACGG      1140

CCTTCCATGT GTCTTTTACG GAGACTACTA TGGGATTTCA GGGCAGTATG TCAAGAAGA       1200
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TTTCAAAGAA ATCCTTGACC GCCTCCTAGC CATCCGAAAA GATTTGGCCT ATGGAGAACA     1260

AAATGACTAC TTTGACCATG CTAACTGTAT CGGTTGGGTA CGTTCAGGTG CTGAAAATCA     1320

ATCCCCAATC GCAGTCCTTA TCTCAAATGA CCAAGAAAAC AGCAAGTCAA TGTTTGTCGG     1380

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TTCAAAGGCT TCCTTACCAG TCACTGCCAA GATACGGCGA GTTCCTGAAC CGATTCCTTC     2160

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TGCCTGTGTT GCGTGGTTTC CAAGGATATT GTGAAGGGCA GCGTGAAGCA AATGAGTCGC     2520

AGTGTGGTTT TTCATGACAC GGTGACGGCG ATTGCTATCA ATTGCCAAGG TATATTCTTG     2580

GTTCAAGGCA AGCGGTGCAA GGACTTCAAC TGTATGAAGG GCTTGACCAT TTGGGGCTTT     2640

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TTGCATACCC ATTGAGCCAC CCTTGACAGC TGACGCACGC GCGCGTTCTT GCTGTTCTTT     2940
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CATGGCTGCT TCAAAACCTT CACGGTCTAC AGTCATACCA GCTTCTTCAG CGATTTCTTC    3000

AGTCAATTCA ACTGGGAACC CATAAGTATC ATAGAGTTTG AAGACATCTG AACCAGCGAT    3060

AACAGATTGA CCTTTTTCTT TCAAGTCTGC TACAATGCCT TGGGCAAAGT GTTGACCTGA    3120

GTGAAGGGTA CGGGCAAATG ATTCTTCTTC GCTCTTAACG ATTTTCTCAA TAAAGTCACG    3180

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GTAAAGGAAA GGCTCGTTGA TACCCAATTT TTGACCATGC ATAGAAGCAC GACGGAGAAG    3300

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AATGTTCTTA TGTGGCAATT CCTTGTATTC GCTACGAGGA ACAGCAGGGT CTGCGTTAAA    3600

TTGTGACAAA ACGATGTTCC AGATTTCAAT ATAACGGTCG TTTTCAATAT CTTCTGCAAG    3660

CAGGCGAAGA CCGATATTTT CTGGGTCAAA GGCTTCCCCA CGGTCAAAGA AGATTTCTGT    3720

ATCTGGTCCA GAAGGTCCCG CACCGATTTC CCAGAAGTTG TCCTCAATTG GAATCAAGTG    3780

ACTTGGATCC ACTCCCACTT CAATCCAGCG GTTGTAAGAA TCTTTATCGT CTGGATAGTA    3840

GGTCATGTAA AGTTTTTCAG CAGGGAAATC AAACCATTCA GGGCTTGTCA AAAGCTCATA    3900

AGCCCAAGTG ATAGCTTCGT CACGGAAGTA ATCCCCGATA GAGAAGTTCC CCAGCATTTC    3960

AAACATGGTA TGGTGACGCG CGGTCTTCCC TACGTTTTCG ATGTCGTTGG TACGGATAGC    4020

CTTTTGGGCA TTGGTAATAC GTGGATTTTC AGGGATAATG GTCCCGTCAA AGTATTTCTT    4080

AAGGGTTGCT ACCCCAGAGT TGATCCACAA AAGAGTTGGG TCATTTACAG GAACCAAACT    4140

TACTGATGGT TCTACTGAGT GACCTTTGGT CGCCCAGAAA TCAAGCCACA TTTGGCGTAC    4200

TTGTGCACTA GATAGTTGTT TCATATTGTC TCCTTATTCA CTTGTTTAAT GTGATTGGCT    4260

TTCCAGCATT TCCACATAGT CAATCGCGAC ACAGAGGGAA ATGACTAGGT CTGCATAAGC    4320

GTCTTCAAGA ACCGTTACGG TATAGGTAGA AGTCAGATGG AAGAGTTCCT TCTTAATTTC    4380

CGCAATCAAC TGATCGCGAT CATCCAGCAA TTTGAAATTC AAATCCCAGA TATTGCCCTC    4440

GATACGAAGA CCTAGATTAT CAAACTCATA CTTATCTCGC CAGAAGGTCA ACTTCTTACG    4500

AATGACAAAA CTCGAGCCAT CCCGAAGCTG AATTTCAAAA CGAGGAAGCA AGGTCAAGAT    4560

TTCTTTACTA ATCTCACTGA CTTGTTCACC AGCCGCATCA TAGATGGTAA AGGTTTTAGG    4620

AATCTTAAAA AATGATCCCT CCACCTGATA GGCAATTTCT CCCCTGTCAT CCTTGATAGC    4680

GAAGCGTTCG CCTCCAAGAC GAAACTTTTG TTTGACAAGA AATGTTTTCA TCAACACCTC    4740
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513

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CAAAAATCAA AAGACAAGCT CATATCACGA AGGGCGAAAA ACCGCGGTAC CACCTTCATT    4800

CAATGAACTT GTCATTCTCT TGTTCTTATG CAATTGTATG ATTGAGTAGC ATGACTTCCT    4860

AGCTTAGATG GCTCGCAGCA CCGCCATTTC TCTGGACTAA GACAAGTGAA AATCAATTCT    4920

CAACTTTCTT ATTATAACGT TTTTTTAAGC TTGCGTCAAC TGGAAATGAT CTCCGTTGAA    4980

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TTTTCTTTTT ATCCCAAATT TTCATATTAC TAAACACAGC TACTAGAATA TTTCCAAATA    5100

TAAAGGTGCC TATCACCCAA TATATGGACT CAGTTGTTAG GTATTGTCGA TCCAAGCCAT    5160

CCTTTAAATG GAATAGTATA GCAGTTTGGT TAACAATCAT AAAGGTTGGC CAGAAACTTT    5220

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ACGCTGACGT GGTTTGAAGA GTATAGGCTT AGTATACTAC TAGGCAAGCA AATAAACAAA    5400

TAAACAACTA GAATAGAAAA AGATAGGGCT CTAAAAACTG ACTTCTATTC CTTAAAAACG    5460

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GTAGGAAGAG GTCGCTATAT TTCCCTGTCC ATTTATGGTC AAATTTCTCA TAAACTTCTA    5580

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GCAATTCCTT CGCTGGTAGG TTTGGTGTTG AATAGCCGAC ATACTCCGCA TTTTGGAGAG    5700

CATTTTCAGG TTTCAACATA AAGTTGATAA AGGCATAGGC TGAGTTTTGG TTTTTAACTG    5760

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GTAGATTTTC ATTTTTTTCT AACATTTGGC TGGCTTCACC AGAGAAGGTC ACGCCGATTG    5880

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GAGTCAGTTT GTAGAGCTTA TCCACTGTCT CTTCCAACTG CTGCAGATCC TTGGAGTTGA    6000

GGCTGTAGCC GAGGGAATTG AGTCCTAGTC CCAGCACCTC ACGCGCCCCA TCAAAGAGCA    6060

TGATAGAATT CTTATACTCC GGCTTCCAAA GGTCATCCCA ATGCTCAGGC GCTTCATCTA    6120

CCATGGTTTC GTTGTAGACA ATTCCTAAGG TTCCCCAGAA GTAAGGGATG GAGAATTTAT    6180

TACCTGGGTC AAAGGACTGG TTGAGAAACT CTGGTCCGAT ATTTTCGATT CCTTCAATTT    6240

TTGAATAATC AAGCGGAACC AAGAGGTCTT CGTCCTTCAT CTTGTTAATC ATGTATTCAC    6300

TTGGAATGGC AATATCGTAG GTCGTTCCAC CCTGCTTTAT CTTAGTGTAC ATGGCTTCGT    6360

TGGAGTCAAA AGTCTCGTAC TGAACTTGAA TTCCTGTTTC TTCTGTAAAC TGAGTCAAGA    6420

GTTCAGGATC GATATAGTCT CCCCAGTTAT AGATAACCAA TTTTTGACTA TCTCGACTAT    6480
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514

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TGATTTTACT ATCTAAATGA GTCGCAATTC CCCACAAGAC AAGGATAATC GCTGCAATTC          6540

CTGCTAAAAA TGAATAGATT TTTTTCATGC TTGCTCCTCC TTCTCACGAG AGATAAAGTA          6600

ATAACCTACA ACTAGGATAA TACTAAAGAG AAAGACTAGA GCAGACAGGG CATTGATTTC          6660

TAAGGAAATC CCCTTGCGAG CACGAGAGTA AATCTCGACT GATAGGGTTG AAAAGCCATT          6720

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ACCAGTAATG ATAGACGGAG TCAGGTAAGG AAGCATGATT TCCTTGAACA TCTGAAATTG          6840

ACTAGCTCCC AAGTCATAGG CCGCATGAAT CATGTCGCCA TTCATTTCCT TGAGTCGAGG          6900

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GTCAGGCGCA ACCATGAGGA TATTATTGAG TGATAGAAAG GCTTCTTGGT ATTTCTTACG          7080

AGACTGGTAG ATGTAAATGG CACCAAAAGT CCCGATAATG GTCGCTATCA AGGCTGATAG          7140

GAAGGCCAAG AAAAATGTCT GAGCCAAAAT CAGCATGAGT CTCCCATCTC CAAACATGGT          7200

TTCAAAGTGA GTCCAGCTAA AACCTGTAAA GCTATTCATA TCATCACCAG CATTAAAGGC          7260

ATAGCCAATC AAGTAAAAGA TAGGCAGGTA GAGGACCAGA AAGACCAGTC CCAGATAAAG          7320

GTTGGCAAAT TTTTTCATCG TTCTCTCCTT TCCTTAGTCA CCCACATGGT GATGAACATG          7380

GTCAGGATGA GAATCACACC GATGGTTGAA CCCATACCAT AGTTGTCATT GGTTAGAAAA          7440

TTCTGCTCAA TAGCCGTCCC CAAGGTGATA ACGCGTTCCC ACCAATCAAA CGGGTCAGCA          7500

TGAAGAGACT CAAACTTGGG ATAAAGACCG ACTGAACCCC GG                            7542
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(2) INFORMATION FOR SEQ ID NO: 59:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 9223 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 59:

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AAAACCAAAT TCCGGTATTT TAACCTATGC TGTAAATACC ATGAAGTCTG TCATGACAGA           60

TCAGGTCTAT AACATTAAGG TTGAGACAGA AAATGGAAAT TATGTTGGTG AAGCTAGCCA          120

TGTTTTGGTC CTTTTGACAA ATTACTTCGC TGATAAGAAA ATCTTTGAAG AAAACAAGGA          180

CGGCTATGCC AACATTTTGA TTCTGAAAGA TGCCTCTATA TTCTCCAAAT TATCCGTCAT          240

TCCTGATTTA TTAAAAGGGG ATGTTGTCGC AAATGATAAT ATCGAGTATA TCAAAGCGCG          300

TAATATTAAA ATCTCTTCAG ATAGTGAATT GGAGTCAGAT GTTGACGGAG ATAAATCAGA          360
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515

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TAACCTACCT GTAGAAATCA AAGTCCTAGC TCAGCGAGTA GAAGTATTTT CAAAACCGAA        420

AGAGGATTAG TATATAGAGA AAGCCTTTTT TAAGGCTTTT TGTATACTTT AAAAGATAGT        480

TCCTTTAACA ACGGACATTC CTTGCAAATA GTTTTACAAA AATAGTATAC TGGATTCATT        540

GAGTTTGAAA ACGTTTGCGT AAAATTTGAA TGAATACTTT AGGAGACAAA TTGATGGAAT        600

TGAGTGCTAT TTACCATAGG CCTGAGTCGG AGTATGACTA TCTTTATAAG GATAAGAAAC        660

TCCATATTCG AATTCGAACT AAGAAAGGGG ACATTGAAAG CATCAACTTG CACTATGGGG        720

ACCCTTTTAT CTTTATGGAG GAGTTTTATC AGGATACAAA AGAAATGGTC AAGATAACTT        780

CTGGTACCTT ATTTGACCAT TGGCAGGTTG AAGTGTCAGT TGACTTTGCA CGTATCCAGT        840

ATCTCTTTGA GCTCAGAGAT ACAGAAGGTC AAAATATTTT GTATGGCGAT AAAGGGTGTG        900

TGGAAAATTC TCTAGAAAAT CTTCATGCAA TTGGGAATGG ATTTAAGTTG CCTTAGCTTC        960 ·

ATGAGATTGA TGCCTGCAAG gTTCCTGACT GGGTTTCAAA TACGGTATGG TATCAGATAT       1020

TTCCTGAAAG ATTTGCCAAT GGCAATGCTC TATTAAACCC AGAAGGGACT TTAGACTGGG       1080

ATTCATCTGT CACACCTAAG AGCGATGATT TCTTTGGTGG TGATTTACAG GGGATTATTG       1140

ATCATATGAA TTACTTGCAA GACTTGGGTA TTACTGGACT ATATCTTTGT CCCATCTTTG       1200

AATCTACAAG CAATCACAAG TACAATACGA CAGATTACTT TGAAATTGAC CGTCATTTTG       1260

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TGCTGGATGC GGTATTTAAT CATATTGGTT CGCAATCTCT TCAATGGAAA AATGTCGTCA       1380

AAAATGGTGA ACAGTCTGCT TATAAGGATT GGTTCCATAT TCAACAATTC CCAGTGACAA       1440

CTGAAAAGCT AGTTAATAAG AGAGACTTAC CCTATCATGT TTTTGGTTTC GAGGACTATA       1500

TGCCTAAGCT AAAATACAGCC AATCCAGAGG TCAAGAATTA TCTTTTAAAG GTTGCGACTT       1560

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TAGGAGAAGT CTGGCATACA TCTCAGCCTT GGCTAAATGG AGATGAGTTC CATGCCGTCA       1740

TGAATTATCC TTTATCTGAT AGTATCAAGG ACTATTTCTT ACGAGGAATT AAGAAGACAG       1800

ACCAGTTCAT CGATGAAATC AATGGAGAGT CTATGTATTA CAAGCAGCAG ATTTCAGAGG       1860

TCATGTTTAA TCTCTTGGAT TCACATGATA CAGAGCGAAT CCTGTGGACG GCCAATGAAG       1920

ATGTTCAACT GGTTAAATCA GCCTTAGCCT TTCTCTTTTT ACAAAAAGGA ACACCGTGCA       1980

TTTATTACGG AACCGAGCTA GCCTTGACTG GAGGACCAGA TCCAGATTGT CGTCGTTGTA       2040

TGCCTTGGGA ACGTGTATCA AGTGACAATG ATATGCTGAA CTTTATGAAG AGGCTGATTA       2100
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516

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AAATTCGGAA ATACGCGTCA GTAATCATTT CGCATGGCAA GTATAGCCTT CAAGAAATCA      2160

ACTCTGATCT AGTAGCTCTG GAATGGAAAT ACGAAGGACG GATCCTCAAA GCAATATTCA      2220

ACCAATCAAC AGAAGATTAT CTTTTAGAGA AAGAAGCAGT AGCACTAGCA AGCAATTGCC      2280

AAGAATTGGA TAATCAGCTT GTCATCTCTC CAGATGGATT TATGATTTTC TAAAAACTAG      2340

TTGATGAAGA TTATGGTACA TTTCATACCT TATATAGTAT AATAAGGCTA GTTACTAAAC      2400

TTGTAAAGGA GAACTTAAAT GAATTGTAGA GGACATGAAA CAAGACAAAG AATTGTTAGA      2460

GATTTTGAAG TTCAGCCTAA AGCACATATT AAGCTGTTAG CAAATCAACA AAAACATAGT      2520

GATGCAGGAG CAACTATTGA AGATGAATAT TATGTATTTA TCGCTGAGAG TAAAATTGAT      2580

GGCAAGAAGG AAGTTATTCA GTGTTGCATG GGTGCGGCAA GGGATTTTTT AGAACTAATT      2640

AATCACAAAG GGCTACCTCT TTTTAATCCG CTTGTAGGTG ATTCTCATGT AAATAATAGA      2700

CAAGAATATG ACAATACAGG GAGTGGAAAT TTATAACCTG AAAAGTGGAA TGAAACTGCA      2760

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CCTTTATTTA ATTTTAAAGA CGAAGTAATT AAGTATAAAA CATATGAGCC TTTTGAAAGC      2880

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CTGAAAAATA AAATTCGTGA TATGAAAAAC CAACAAGGAA ATACAATGGA ATCTTACTTT      3060

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GATTATGAAT TGACTTTAAA AATTGAAATT GTGAAAGAAA GAGGTGCTAA TCTATTATCT      3780

CGACTCTATC GTTATCAAGA TAGTCAGGGA ATTAGCATTG ATGATGAGTC TAATCCTTGG      3840

ATTTTAATGA GTGATGATCT ATCTGATTTG ATTCATACGA ATATCTATCT AGTAGAAACT      3900
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517

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TTTGATGAAA TAGAGAGATA TAGTGGCTAT TTGGATGGAA TTGAACGTAT GTTAGAGATA      3960

TCTGAAAAAC GGATGGTGGC CTAATGGAAA TCCAAGATTA TACTGATAGT GAATTCAAAC      4020

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TAGCGATTTT GCTTGGAGGG CAAAGTGGTG CCGGTAAGAC TACAATTCAT CGTATTAAAC      4140

AGAAAGAATT TCAAGGAAAT ATTGTTATCA TAGATGGTGA TAGTTTTCGT TCTCAGCATC      4200

CACACTATTT AGAACTGCAG CAAGAATATG GCAAAGCACG TGTAGAATAT ACCAAAGATT      4260

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CAAAAGAAAA TACAACTTCA GCAGCAGATG TTCTTCAAGA GTTACTCTTT GGGGAGTGGA      4680

GTCAGGTAGA GAAGGAGATG TTGCAGGTGG GGGAAAAGAG ACTTAATGAA TTACTTGAAA      4740

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TAGTAACTGA TCATAATACT ACCAAAGGTA TTAAAAAGTT ACAAATGGCA GTCTCAATCA      5160

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GTGCAGCAGA TAAATTGCAT ATTGTATGTA TATATGATTA TGAACAAGAA TCATGGGTTA      5280

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TATTCTCTAT AAAGAAGTTG GTGTATTAAG TTTGGGACAA AAAGTTGTAG CCATGCTTGA      5580

TTTTTTATTA GCATATAGTG ATTATTCTAA AGACTTCAGA CCATTGATTA TTGATCAGCC      5640
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518

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TGAAGACAAT CTAGACAATC GTTATATTTA CAGGCATTTA GTTCAGCAGT TTAGAGATGT      5700

GAAAGCTCAA CGTCAAATTA TTTTAGCAAC ACATAATGCT ACAATTGTAA CAAATTCTAT      5760

GACAGATCAA GTTGTTATTA TGGAGTCAGA TGGAGTTAAC GGATGGATTG AATCACAGGG      5820

ATATGTTAGT GAAAAATATA TAAAAAATCA TATCATCAAT CAATTAGAGG GAGGAAAAGA      5880

TTCCTTCAAG CATAAAAATGT CTATATATGA GACGGCTTTA TCAGAGTAGA GTCAGAAAAA     5940

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CGTGACGTTC ATGAAGTTTT AATCTTGGCA CAGTCAGAAC GTCAAGTCAC CCAAGAGCAT      7020

GTATCTATTC TCTTAACGTG CGTGCAGGAA TTGATTCAAG AGGTTGCAAA CACCATACCC      7080

CTCAGTAAAG AATTTCGTGA GAAGTACATG AGGTAAGCAC ATGGAACATC GTTACCGAAC      7140

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TCAAAGTGGT TGTAAATCCT TTTCTGAATA TGCGAGACGA ACTCTACTCG ATCCTGGTAT      7260

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TGGCAATAAT ATCAACCAGA TTGCTCGAAG TGTTAATCAA TCTCAGTTAA TTTCTGGTGA      7380

AGAATTGCAG GAGTTGAAAA AAGGAATTGG TGAATTGATA AAAGAAGTTG ATAAGGAATT      7440
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519

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TAATCTGCAA GCGCAGAAGC TAAAGGAGTT CCATGGTCAT CACTAAACAC TTTGCCATTC      7500

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AAATGGTGCA GATGTATCAT GAAAATTTCA TCAGCAACGA TACGCTTTAC GATTTTCGCC      7680

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CAGAATATCT ACTGGCTTCA GTTGAAAGTA AGCAAGAAAT GAAATTAAAT CTTTCAAAAC      9120

TGAATATAAC TGAGAATATC AGTGCTAATA TTGTTGAGAA AAAAATTGAAG AGCCTGGGGA      9180
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        ATCAACTGGA ATTGGAAAGG GGCAGGTATG AAAAGATGGT AGT                        9223
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(2) INFORMATION FOR SEQ ID NO: 60:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6827 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 60:

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TCTGCTGGCT ACCATCATCT GACTTGGGCA AGACCAAAGT CTTAGTTACA ACTGTATTCT         60

TCTCAGCATT TTCAATAACT GGCAATGCCG ACTGAAGCGT ATCTTTTTCT GTTTTTGTAG        120

CTGGTCCAGT TTCTTTTTTC TGTCCGCAAC CAACCAGGAC AAAAAGGAAA GCTAGACTAA        180

CAAGAACTAT TTTTTTCATT TCTTTCTTCT TTCTTTTTGA AATTAAAATA GAATAAGACT        240

GGGAAGTGCT CCCAGCCTTG ATGTTTATAG AGCTGCACGC AAACGTGCTT CTGCATTTTC        300

TACATTACGG ACAGAGCGTG GTAGGAAGGC ACGAATATCG TCTTCCTTGT AGCCAACTTG        360

CAGGCGTTTT TCATCTACAA GGATTGGGCT CTTTAAAATT CTCGGTGTTT CCATAATCAG        420

ATTGAGAACT TCATTGACAC TCAAATCTTC AATATCCACT CCAAGGGCTT TGGCATAGCG        480

ATTTTTAGAC GAAACGATGC TGGCTATTCC GTTATCTGTT TTGGTTAGAA TATCCAGTAA        540

TTCTTCTCTC GTAATTCCTT CTTTACCAAG GTTTTGTTCT TTATAACTTA ACTGGTGGGC        600

ATTGAGCCAG GTTTTTGCTT TTTTACAGCT AGTACAACTT GAGACTGTAT AAATTTTAAT        660

CATGTACCTA CCCCTTTCGC TACATGTTAC TATCAGTTTA GTCTATTATA CCATAAAAAA        720

CATCCGACTT GCGACCTATT TTTAATTTTT TTTGACTTTT TTCGTCATTT TCGTACTTTT        780

TTCTTGACAA ACAACTAAAT GACTATCAAC TCTTTTGGAG CTAGGGTCAA TAATTCACAA        840

CCTGTCTCTG TAATCAGGAT ATCATCCTCG ATACGAACGC CATATTTGCC TTCGATATAG        900

ATACCTGGTT CATCGGTCAA GGCCATACCT GTCTTAATAG TTTCTGTAGA AGTCTGACTA        960

AAGTAGGGTT CCTCATGGAT ATCCAGACCA ATACCGTGGC CAATGCCGTG AGTAAAGTAG       1020

TCACCATAAC CTGCCTCAAT GATAATATCA CGAGGGATTT TGTCAAAGTC ACGGAAACCT       1080

AAGCCTGCCT TAGCTTGGTC AATCAAGGCT TGGTTAGCTT TTAGAACCGT ATTGTAAATC       1140

TCTGCCTGCT CATCGCTAAC ATGCCCTAGA TAGATAGTCC GGGTCATATC ACTGACATAG       1200

TGGTCATAGA GACAGCCGAA GTCCATGGTG ATGGCTTCTC CCAACTCCAC TGGTTTGTGC       1260

ATTGGATGGG CATGGGGTTT AGAAGAATTG ATACCGCTAG CTAGGATCGT ATCAAAAGAT       1320

AAGCCAGATG CTCCCAACTC ACGCATGCGG AAATCAAGGA AGTTGGCAAT CTCAATTTCA       1380
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521

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GTTTTTCCTG GTTTGATAAA GTCAAGCGCA TCGCGGAAAG CTTGGTCTGA GATAGAACAA      1440

GCCTTGCGAA TCGCTGCAAT CTCTGCCTCA TCCTTAATCA TACGAAGACC TTCCACAAAC      1500

TGAGTTTGTG GAAGCAAGTT CAAACCTGCA AAAGCTGCCT GCATACGGTG GTAATAAGAC      1560

ACTGAAATCT CATCTTCAAA ACCGATACGA GTCAAGCCCA TGTCCTTAAC AATTCCTGCA      1620

ATGACAGCCA ATTCATCACG ATCAGCCACA ATCTCAAAAC CACTGGTTTC TTGCTTAGCT      1680

GCGATGATAT AGCGAGAGTC TGTCACTAAG ACCTGACGGT CACGACTGAT AAAGACTGTT      1740

CCGTTTGAGC CCCAAAAACC AGTCAAATAA TAGACGTTTT TAAGATTGTT GATGATGATA      1800

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AGTTCCTGTT ACGATGATGG TTCCACCACC GACACCGCCC TCAGGTCCCA AGTCAATGAT      1980

ATGGTCTGCC GTCTTGATAA CATCCAGATT GTGCTCGATG ACGAGGACTG TATTGCCATC      2040

GTCTACAAAG CGAGCTAAAA CCTTGAGCAG GCGAGCAATG TCCTCTGTAT GAAGCCCTGT      2100

CGTCGGCTCA TCCAGAATGT AGAAAGATTT TCCTGTCGAT CGTTTGTGGA GTTCGCTAGC      2160

TAACTTCATA CGTTGGGCTT CTCCCCCAGA AAGGGTGGTA GCTGGCTGTC CCAAGGTCAC      2220

ATAGCCTAGC CCTACATCCT TGATGGTCTG GAGTTTGCGT TGAATTTTCG GAATGTGTTG      2280

GAAAAATTCT ACCGCATCGT TGACCGTCAT ATCCAAGACC TGCGAAATAT TCTTTTCCTT      2340

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TGTCACTGCG ATAAATTTTC CTAGTGGAAA GCGAGCCGTG ACATTTTGCA AGTTGTTCTC      2820

ACGCGCTCCT ATCACTTCAA TAAAACGACC ATTTCCGACA CGGCGCTCTT CTGGTACTGG      2880

GATGACACGT TTGCCTGACA AGTACTGACC TGTGATAGAC TTGCTGTTGC GAGCCACTTG      2940

CTTAGGTGTA CCTGCTGCAA CAATCTCACC ACCAAAAACA CCGGCACCAG GACCAACGTC      3000

AATCAGATAA TCAGCCTCAC GCATGGTATC TTCGTCGTGT TCCACCACGA TAAGAGTATT      3060

GCCCAAGTCA CGCATCTTTT TCAGACTGGC AATCAGGCGA TCATTGTCCC TCTGGTGAAG      3120
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522

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ACCGATTGAC GGCTCGTCTA GGATATAGAG GACACCTGAT AGGTTGGAAC CAATCTGGGT    3180

TGCCAAACGA ATGCGCTGAC TTTCCCCACC TGAAAGGGTT CCTGCTGAAC GTGACAGGGT    3240

TAGATAGTTA AGACCCACAT TATTAAGGAA GGTCAAACGA TCCTTGATTT CCTTGAGAAT    3300

GGGACGAGCA ATGATGGCTT CATTTTCAGA CAAAGTTAAC TGGCTCACCA AGTCCAAGTG    3360

GTCAGCGATA GACAGGTCTG AGATTTCTCC AATATGTGGC CCTTGCTGGC CGCCCACACG    3420

GACAGACAAG GCCTGGTCAT TGAGACGATA GCCTTGACAG GTTCCGCAGG TCAGCTCATT    3480

CATGTAGAGA CGCATCTGAG TGCGAGTGTA ATCGCTATTG GTTTCATGGT AACGACGTTT    3540

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TTCTGACAGG TCCTCAAAAG GCTTATCCAT AGCCACTCCA AAGACTTTCA TGGCCTGCTC    3720

TAACATGTTT GGATAGTAGT TGGATGAGAT AGGATTCCAA GGTGCTAGCG CTCCCTCACG    3780

TAAGGTTTTG CTAGCATCTG GCACTACCAA ATCAGTATCC ACCTCCAGCT TGATGCCCAA    3840

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AACCTTATCA ACGATTTGCT CCACAGAAGA AGCATTGATA GCTCCATGTC CGTTGATACA    4320

GTAAGGCGTC CCCACACGTG CGTAGAGGAG ACGCAGATAG TCATTGATTT CAGTCGTCGT    4380

TCCCACCGTC GAGCGAGGAT TTTTACTAGT CGTTTTCTGG TCGATGGAAA TAGCTGGGCT    4440

GAGACCATCA ATGGCATCTA CATCTGGTTT TTCCATATTT CCCAAGAACT GACGAGCGTA    4500

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CCCAAAAGGC CGATTTTGTA GTATAATAGT ACAGTGTGAA AAAATCTGAA AAATGAGAAA    4800

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CGCTTGAACC GGGTACTTGG ATCAATCTCG TCAATCCGAC TCAAAATGAA TCACTCGAAA    4920
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523

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TCGCCAACAC CTTCGATATT GATATTGCTG ACCTTCGAGC ACCGCTCGAT GCGGAAGAAA    4980

TGTCTCGTAT TACCATTGAA GACGAGTATA CCCTGATTAT CGTAGACGTG CCGGTCACGG    5040

AGGAAAGAAA TAACCGCACC TACTACGTAA CCATCCCGCT TGGTATTATC ATCACTGAGG    5100

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GATTGCGTAA TTTCTATACC TTCATGCGTT CACGTTTTAT CTTTCAAATT CTTTATCGCA    5220

ATGCAGAGCT TTACCTAACA GCCCTTCGTT CAATCGACCG CAAGAGTGAA CAAATCGAAA    5280

GTCAACTGCA TCAATCAACT CGTAATGAAG AATTGATTGA GCTCATGGAA TTGGAAAAAA    5340

CTATCGTCTA TTTCAAGGCC TCCCTCAAAA CAAATGAGCG CGTGATTAAG AAATTGACCA    5400

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TTGAAACCCA ACAGGCCATC GAGATGGCAG ATATTTATGG AAACGTCTTG CATTCTATGA    5520

CAGAGACCTT TGCCTCTATC ATTTCTAACA ACCAGAACAA CATCATGAAA ACCTTGGCCC    5580

TTGTGACCAT CGTCATGTCC ATCCCAACCA TGGTCTTTTC TGCCTACGGG ATGAACTTTA    5640

AGGATAATGA AATCCCCCTA AACGGAGAGC CAAATGCCTT CTGGTTAATC GTCTTTATCG    5700

CCTTTGCTAT GAGTGTCTCG CTCACTCTCT ATCTCATCCA TAAAAAATGG TTCTAAGAGG    5760

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GCATCCAAAA GAAAATGATG ACCCAAAACT GATGATTATG GACTCAGCTC TTTTCATCAC    6060

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GTACTACTTT GTTTACCAAT ACTATGGACC AGATATGGAT CGCAGTCAAC GTCCACCTTT    6240

CTGGAAATCT GTACTAGTTA TCCTAGCTTC TATGTTCCTT TGGTTGCTTG TCTTCTTTGC    6300

AACAAGCTTC CTACCAGCTA GCCTTAACCC AGTACTGGAT CCATTGCCAC TAGCTATTAT    6360

TGGAGCAGCC CTCCTAGCCC TTCGCTTCTA TCTCAAGAAA CGCTTGAATA TCCGTAGTGC    6420

AAGTGCAGGA CCAACACGCT ATCAAGAATA AGAAAACGAT AAAAGCAACT GCAGGTGCGG    6480

TTGCTTTTTC ACTTACTTTT TTGAGTTATA TTCAATGAAA ATCAAAGAGC AAACTAGGAA    6540

GCTAGCTGCA GGTTGCTCAA AGCACAGCTT TGAGGTTGCA GATAAAACTG ACGTGGTTTG    6600

AAGAGATTTT CGAAGAGTAT TAAAAGTATT CTTCTGAAAT CCCACATAGC TTTCTCTTAT    6660
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524

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ATTTTGTGAT AAAATAGGCT CAATCTATTT CTAGGAGGAT GAGATATGGT TTCTACTATT          6720

GGTATTGTTA GTTTATCTAG TGGCATTATC GGAGAGGATT TTGTCAAACA CGAAGTGGAC          6780

TTGGGTATCC AACGTCTCAA GGATCTGGGA CTCAATCCCA TCTTTTT                        6827
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(2) INFORMATION FOR SEQ ID NO: 61:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11864 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 61:

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CTGGCTAGTT GCATAGAGCA AAGTTGCTTC TTCATCAACA AAACCGTTCA TTTCAAAATA            60

GGAAAGCAGC TCATCAGGAC TCTCCAAACG AATCCCTTTG TAATCCAGCT CAACTGCCAC           120

CTCTTTCAAG GCTGCAAGAA GAAGTGTTCC CAGGCCCTGT CTCTGATGGT CAAACTCGAT           180

GACTAAAGAA TGTACTTTTA GACATTGCGG ATTGTCTGAC TGGGGACTTG ATAAAATATA           240

GCCTAAAAGT TGATTTTCAT CCCTAGCTAG AAGAAAGGTA TCCGCACACT TACGGATACT           300

TTCTTCTAAA ATATGGGAAA GTTGCTGCTT TTCAGCTGGA AAAGACGAGG TCTGAAGTGC           360

CCCTATCTCA GGCAAATCAG ACTTGCTTGC CTGAATGATC TTAATTGGAA TTTCCATGGG           420

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GGTTTGGATG TCTCCTGCTC CCATAAAGAC GTAAACAGCA TTGTCATGGT CTAGGAGTGG           540

AGAAACATTT TCAACAGTAA TCACTTGGTG TTTTTTGTTG ATTTTGTTGG CTAGGTCTTC           600

TACCTTAACG TCACCATGAT CTACTTCACG AGCCGAGCCA TAAATTTGCG CTAGATAAAC           660

AGCATCTGCT TGGTTTAAAG CATGGGCAAA GTCGTCCAAC AAGGCAATGG TTCTTGTAAA           720

GGTATGCGGT TGAAAGACTG CTACAATTTC CTTGCTTGGG TATTTCTGAC GAGCCGCATC           780

CAAGGTCGCA ATAATTTCTG TTGGATGGTG GGCAAAGTCA TCGATAATCA CTGTATCATT           840

GACAATTTTC TCAGTGAAAC GACGTTTAAC ACCGGCAAAT GTTTTCAAGT GCTCACGCAC           900

CAAGTTCAAA TCAAATCCTG CTGTGTAAAG AAGACCAATA ACGGCTGTCG CATTCATGAT           960

ATTGTGACGA CCAAAGGTTG GAATGTGGAA TTGCCCCAAG TTTTGTCCAC GGAAATGAAC          1020

GGTGAAGGTT GAACCAGTTA TTGAACGAAG AAGATCACTA GCTACAAAGT CATTGCCTTC          1080

AGCTTCAAAA CCATAATAAT AAATTGGTGC ATCAGACGTA ATCTTACGCA ATTCAGCATC          1140

TTCACCATAG ACAAAAAGAC CCTTGGTGAT TTGTTTGGCA TAGTCGTTAA AGGCATTAAA          1200

AACATCCTCG AGACTTGTGA AATAATCTGG ATGGTCAAAG TCAATGTTGG TGATAATAGA          1260
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525

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GTATTCTGGG TGGTAAGGCA TGAAGTGACG CTCATATTCG TCAGATTCAA AGACAAAATA    1320

TTTGGCATTG GCCGAACCAC GACCTGTCCC ATCTCCAATC AAGAAGCTGG TATCTGTAAT    1380

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TCCCATGCTA ACAAAGTCAC GCATAAAGCT ACCTAGAAAC TCATGGTAAC GTTTGTAGCT    1500

GATACCATTT TGGTCCGCAT AGGCAATTTC GACGTTGTTA TCTGGACGAA AGGCATTTCC    1560

AGCGATAATT TCCATATCAC CGTCTAGATT TTTTTCATCA AAAGGAAGAA TGGTAATTCC    1620

TGCCTGCTCA AGACCGCGTT GGGTAAAGTA GTACTTTTCA ACATCTGATC CCTGAACCTT    1680

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GAACTGAGAG AAAATCAAGA CACGGTGTCC GCCGTCTGCC ACCTGTACCA GTAGGTCTCG    2940

GAGACTATCT AGTTTGCCGC TGGCTCCCTG ATAATCTTCC ATAAACAGGG CAGGAGTGTC    3000
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526

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ACATATTTGA CGCAAGCGCA TCAAACCAGA TAAAATTTCC ACACGACTTC GCTGAAATTC      3060

CTGTTCTGAC ACTTGAGCCA GATGGTCTCG CATCTGTTGT AACTGGGCAA GGTAAATAGC      3120

CTTTTGCTGG TCTTCCAGTT CATTTTTATA AACCACCTCA ATCAAGTCTG GCAATTCAGT      3180

CAGAACTTCT TCTTTCTTGC GTCGCATCAC GAAAGGCTTG ATAAACTGAG CCACTCGCTC      3240

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CGGCACCACA AATTGTCTCA AGGTCTGGGC AATCTTGGTC TGGGCATTTT TCATGACCTG      3420

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GCTATCAAAT TGCAGGTATT TCTTTCCTTG TTGACCCACA GGTAACGCTT TAATTTCCTT      4620

GAGAAGACGC ATCTGCTGGT CTGTTAAAAA ATAAACCTGA CCTTTATGGA AAAGTACTGC      4680

TCCCTGATAA AAGACATTGA CCCTAGGACT CTCACTGATT TCCATTTCAA AATAATCCGA      4740

GTATTCTGTT ACTGTAAAGG CAAATAGATT GGCATCAGCA TGCATATCCT GAAAAAGCAG      4800
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527

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GGTTTGGTAG CTATCCACTT GATGGTCAAA TTGAAAATGG GGCAAGGCCA TCAGTAAATT    4860

CACACCCTGC TCAAAAAAGG TCAGAGGGAA AAAGAGGTGC CGACCTTGGT TTTGGAAAAA    4920

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GGCATCATCA AAGGCTTCCC AAGAAAGAGA CTCCTCATAA ATCTTGCCAA TCATATACGA    5040

CTTTCTCTGC TCGACAATCC TTAAAAAAAG TGGAATATCC CGAATGACAT AGTATTTTTG    5100

GCTATTGATT TGGCCGATTC TCAGAGTCCA CAAGATATGA TTGGTTCCTG CTTCCACCTG    5160

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AACAGACTAT CCTTTTCCAC TAAGGAATTA GTAATCAATC TACGATTATT CAACTTGACA    6420

CTGCGAGCAA AGGGTGGGTA GACAGGCGTG TTAATTAAAA CCGCCTCGCC TTCTTTTGTA    6480

AAGGTTTGAA TAGCTGTTGA GATGGCTGGT ACCACACCCT CGATAAAGAC AAGAGCCTCT    6540
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528

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TTGTCAAAGT TGTAACCGTA TTGTGTAGCT TCCCACTTTT GAACTTCCTT AATTAAGTCT    6600

TCACTGGCAT AGGTATAACC ATAAACCAGT TGGTCTGCGT AAGTTTGCAC GGCTTGGCGG    6660

ATTTCAGGCA AGACCACAAA GTCCATATCC GCTATCCAAG CTGGTAGAAC TTCACTATCC    6720

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CACTTGGTTA AACCAGCGAA AAGAACCACC GTAAAGATCA CGCACTGCCA AGACCTTACT    7620

TCCTACTGGA AAGACGCTAA AGGCCAGTAC AATAGCTGAC ATCCCTGAGC TAGTCGCTAG    7680

GGCATAGTCT GCTGACTCAA TAGCCGCCAA GACTTCCTCA GCCTTACTAC GAGTTGGATT    7740

TTTAGTGCGC GTATAGTCAA ACCCAGTAGA TCGACCAAAC TCTGGATGCT GATAGGTCGT    7800

TGAAAAATGA AGTGGTGTCA CCAAAGCACC TGTTGCCTCA TCAGACTTGA TCCCTGCTTG    7860

TGCTAAAATT GTGTTAATGT GTAATTCCTT GCTCATACAA TTCCTCCAAA TCTATAGTAA    7920

CTATTGTACC ACTTATTTTG TATCCTTCGT TTTCTTGTTT TCAAGAGCTA GTTATAGTTT    7980

CAAACTATAT AAAAAGGGAG TTTTTCCTGC TCCCTTTAAT AGACTATAAA ATGGTGAATC    8040

TCAAAAGACA CCTTCACTCT ATCATTTGCT CCTGCACAAA ACGAGCATAA CGCTCATGAT    8100

TTTCCAGTAG TTCCTTATGA GTTCCTGAGC CAGTGATTTT CCCCTCCTCT AAGAAGAAAA    8160

TACAATCCAC ATCTTTTACC GTTGACAAAC GATGCGCTAT AATCACAACC GTCTTCTCCT    8220

TTAGTACAGA ATAGAGGCTA CTGATAATCG CATACTCAGA ATCCGCATCA AGATTAGCAG    8280

TGGCTTCATC AAATATAAGA ATTTCAGCAT CTTTTAAGTA GGCTCTAGCT ATTTGAAGTC    8340
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529

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TTTCGTTCGC CCCCCTGACA AGAGTCGTCC GCGTTCACCA ACTTCAGTAT CTAGTCCCTC    8400
TTTCATGGAG CGAATCTCAT CACCTAGTGA TACTAAGTCT AGCACTTTCA TCAATTCATC    8460
ATCAGTTACT AAGCGATTCA AACCGAGACA AAGATTGTCA CGAATACTGC CAGATAAGAC    8520
TGCATTATTT TGTGAAACCC AAGCGATTTT ACTTCTCCAT TCTTTTAAGT TAAAATCATA    8580
TATACTTGAT TGCTCCATTA GAATATCTCC TGAAAGCGGT TTATAAAACC GCTCTAACAA    8640
ACGCACAATC GTTGATTTTC CTGATCCAGA TGGTCCAACA AAAGCAATTT TTTGCCCCTT    8700
GAAAATTGAA CAAGTAATAT CCTTTAAGAC AGGTCGATTT TCATCATAAC CAAAATAGAC    8760
ATGGTTAAAA TTCAACCCTC GTCCTGATAC CGATTTTCCT CCCTCAAATT TTTCTTTAGG    8820
AACTGCAAGC AAGTTCTCCA GTGCAACTGA AGATCCCTTG CTCCTAGAAT AAACAGTTAC    8880
AAAATTAGCT ATATTACTAA TAGGATTAAG TAATTGAAAG AGGTAAATCA AAAACGAAAC    8940
CAAGGTTCCC ACAGATATAT ATCCTGCGCT GACCCGATAA CCCCCATAGG TTAGCATCAC    9000
AGCTATAGTC GCAAAGATAA ATAAGAGAGC AAACGGGGTC TCAAAAGAAG TAACCCTATC    9060
TGATTTCAGT GAATTGTTTT GTACCCTTTC AATACAATTA TCCAAAACAT CCTGTACACT    9120
TTTCTCTGCT TGGTTAGTCT TAATTAATTC ATGTTCTTGA ATCTTTTCAG TCAATTGCCC    9180
TGTTAAATTT CCTCCTGTAA ACGACGACTA TACTTTTCAC TGATATTGGA AAGGGGCAAG    9240
ATAATAAACA TCATACAAGG AAGAGTGATG AATAAAAGTA GAGAAAGATT CCAATCAAGA    9300
CTAAATAAGA CTACAATGGA ACCAAGTACC ATAACTAAAC TCAGAATAAT ATTTGGGAAA    9360
GTCGTAATTA AAAACTCACG AATGACACTC GTGTCATTGA CAATGGCAGA AGTCAACTCC    9420
CCACTTTGGC TCTTATCAAA GAAGGATTTC TCTACATAAA TCAACCCCTC TATCACTTTT    9480
TTCCTGATTT TTGCTATCTT TTTTTCACCC GATTGACTAA ACAGATAGTA ACCAATAGAA    9540
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CTAGACAGAA CAAGTAAGAA ACTCCCCATA ATCACCTTAG TATCTACTCT TAATAATTTT    9720
AATTTCATAA ATACTCCTTA TAATATTTCA ACGGATAAAG TCGGGAATAA CTCAATTTGA    9780
GGATAAAATC TAATAAATCT TCCTATAACA AAACGCATAA CATCTAGGAT TTTATATACC    9840
TGATATTATG CGTTTTTAAG CACAAAGACT TCTTACACAA ACTTATCTAC AATTAGATTT    9900
TATTTGACAT GTTTTGCCAA TTCTTCTTGG GCTTTTTTAT TGGATTCTTC TTTTTCTTTC    9960
AACCATTTTT CTCTGGCTTT TGCATATTCG TCTGTTGTGA CAATCTTATC TTGTACTTTG   10020
AGGTATTTAT ATGATTCAAC CCCTTTTGTA CCGGTTAAAC CATAGGCAGC AGCAAATGGT   10080
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530
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ACGGTTCTTC TCAATGATGG TGTTCCCCCA CGCGAAACAC TTGGAAGAAC TAAAGAACTA      10140

TCAATCAACC AAGCTTGAAT ATCAGCATAT TTCTCATAAC GTTTGGCCGG ATCTTGCTCT      10200

TTATTAGCTT CTTCCAACAT TTGAGTATAG ACATCCAGTC CAACTGCCTT AGCCTTGTCA      10260

TTGGCCTCAC CAGGCTCTAG TCCAAGATTT TGCAGAAATC CTCCACTATT AGTATTAAAA      10320

ATATCGAGAT AGGTTGACGG GTCTTGATAA TCAGGTCCCC AACCGCCATG ATATAAATCA      10380

TAATCTTTCT GAGCAGCTGT TTGAGCAAAG TAGCCTGAAC TGTCAAACTC ATCTGATGTT      10440

AATTGCTGAA TGTCAATCAC TACATTATCA GAACCTAAAA CAGATTCAAT TGATTGTTTG      10500

ATAGAACTAA CTCCTTGTAT GCCTACTTTA TCTGTTACTT CCACAGTCTT ATCCAAGTGG      10560

ATTGGGAATT GAACACCCTT TGCTTCGAGT TCTTTCTTAG CTTCCGCAAA CTTAGCCTTG      10620

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TTACCATAGT TGACCATCTT AGAGGCTACA ACTTCACCAA AGTCTTTTCC CTTGATACTG      10740

ACAAAGTTTG GAGGAACCAC TAGGTTACGC AAAATCTTTG TTGCACCTTC TTTCCCTTCA      10800

GACTGAGCCC CATAAGATGT TCTGTCAAAA GCAAAATTGA TAGCCTGACG GAAGTTTTTA      10860

TTGAGAACTG CTTCCTGAGT CGATTTCTTT TCAATGTCAC TTGTTTTAGA AGTATAATTG      10920

TAAGACTTCC TATCTAGGTT AAAATTAAAG AAATATGAAG TTGAATTTTG CATACTATAG      10980

ATGATATTGT TTTTGTATTT TTCTTTAATC CCTTCATAGC TGGAGCTGTT AGGAAAAAGA      11040

CGAGCCGTAG TATAAGCACC AGCTGTAAAA TTACGTTCCA GTGATTCTTG GTCGCTACCA      11100

TCATAGTAGG TCAATTTCAC ATCGTCTACA AAGACATTCT TAGCATCCCA GTAATTAGGG      11160

TTTTTCTTAT ATTCAATAGC AGATTTTGAG ACAAGTGCTT TCATCAAGAA AGGTCCATTG      11220

TACAAAATAC TAGATGGATC CGCCTTCCCA AAATCATCCC CTTTTGATTT CAGGAAATCT      11280

GCATTAACAG GAAAAAGTAT CGTTGCAAGT GTTTTTGAAT TCCAGTAAAG TTCTGGTTTA      11340

ACCAAAGTAT ATTGAACCGT TTGGTCATCA AGTGCCTTGA CACCGACAGT TGAAAAGTCG      11400

CTTGTTTTAC CAGTGATATA GTCATCCAAA CCAGCAACAG AGTCCTGCAC TAGATACAAG      11460

GCTTCTGATT TTTTATCAGC TGCATATTGC AAACCTGTCA CAAAATCCTG GGCAGTTACA      11520

GGCGCATATT CTTCTCCCTC AGAAGTAAAC CACTTGGCAT CCTTACGAAG TTTGTAGGTA      11580

TAGGTCAAAC CGTCCTGAGA AACAGTCCAA TCCTCTGCTA ATGATGGAAT AATATTCCCA      11640

TATTGGTCAT TTTCTAATAA CCCGTCTACC AAATTTGCAA CAATATCGGA TGTTGCTGCG      11700

CGGTTTTCTG CTAGATAGTT CAAGCTAGAT GGATCACTTG AATAAACATA GTTGTAGGTT      11760

TTTGACGCCG TGCTAGAATT TCCACACGCG CTCAATAAAA CTCCTGTACC CAGGACAAGA      11820

CCTGCCAAGG TTAGATATTT GCTCTTAGAC TTTTTCATTT CCGG                      11864
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531

(2) INFORMATION FOR SEQ ID NO: 62:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2412 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 62:

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TAACTGCACT AAACATAATA TAAGGAGAGA AAATGTCTGC AATAGAACGT ATTACAAAAG      60

CTGCTCACTT AATTGATATG AACGATATTA TCCGTGAAGG GAATCCTACT CTACGCGCGA     120

TTGCTGAGGA AGTCACTTTC CCCCTATCTG ACCAGGAAAT CATCCTAGGC GAAAAGATGA     180

TGCAATTCCT TAAACATTCC CAAGATCCTG TCATGGCTGA AAAAATGGGA CTCCGCGGTG     240

GTGTTGGACT GGCTGCTCCC CAGTTAGATA TCTCAAAACG CATTATCGCT GTTTTGGTAC     300

CTAATATTGT TGAAGAAGGC GAAACTCCAC AGGAAGCCTA CGATTTGGAA GCCATTATGT     360

ACAATCCAAA AATCGTCTCT CACTCTGTTC AAGATGCTGC TCTTGGCGAA GGAGAAGGTT     420

GCCTGTCTGT TGACCGTAAC GTGCCTGGCT ATGTTGTTCG CCATGCCCGC GTTACTGTTG     480

ACTACTTTGA CAAAGATGGA GAAAAACACC GTATCAAACT CAAAGGCTAC AACTCCATTG     540

TTGTTCAGCA TGAAATTGAC CACATTAACG GTATCATGTT TTACGATCGC ATCAATGAAA     600

AAGACCCATT TGCAGTTAAA GATGGTTTAC TGATTCTTGA ATAAAGAAAA TCCCGTTGCA     660

AGACGGGGTT TTGTGTTATA ATAGAGGCAT GAAAACAAAT GATATTGTCT ATGGTGTCCA     720

CGCCGTTACC GAAGCCCTCC TTGCAAATAC AGGAAACAAA CTCTACCTCC AAGAAGATCT     780

CCGAGGTAAG AATGTTGAGA AAGTCAAGGA ACTAGCTACA GAAAAGAAGG TGTCCATTTC     840

TTGGACATCA AAAAAATCTC TCTCTGAGAT TACTGAAGGT GCTGTTCATC AAGGTTTTGT     900

TCTACGAGTG TCTGAATTTG CCTATAGCGA GCTAGATTAC ATCCTTGCAA AAACACGCCA     960

AGAAGAAAAT CCACTTCTAT TGATTCTAGA TGGTCTAACC GATCCCCATA ATCTGGGTTC    1020

TATCTTGCGA ACAGCCGATG CGACCAATGT TTCAGGTGTC ATCATTCCCA AGCACCGTAC    1080

TGTCGGAGTA ACTCCTGTCG TTGCCAAAAC AGCCACAGGT GCTATTGAAC ACGTtCCAAT    1140

TGCCCGAGTG ACCAACCTCA GTCAAACCTT AGGATAAACT TAAGGATGAA GGTTTCTGGA    1200

CCTTTGGAAC GGATATGAAC GGTACTCCTT GCCACAAGTG GAATACAAAA GGGAAAATCG    1260

CCCTCATCAT TGGAAATGAA GGAAAAGGTA TCTCTAGCAA CATCAAAAAA CAGGTCGATG    1320

AAATGATTAC CATTCCGATG AATGGACATG TTCAAAGCCT TAATGCCAGT GTTGCTGCGG    1380
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532

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CCATTCTCAT GTACGAAGTT TTCCGAAATA GACTATAAAA AAGTTTCCAG TCATCTGATT    1440

GGAAACTTTT TTATGATTAA CTATGTTCTG TAATGAATTT ATAGGCTTCT TGACCAGCGA    1500

TAGCTCCATC TCCAACCGCT GTTGTTACTT GGCGAAGGTC TTTCAAGCGA ACATCTCCAA    1560

CTGCAAAGAT ACCGTCGACT GCAGTTTTCA TGTGGTTATC TGTCACAATC CATCCTGCCT    1620

GATCTTGGAT ATTCAATTCT TTAACAAAAT CGCTAAGAGG GTCCAAACCA ACATAGATAA    1680

AGACACCACC GAAGGCTTGT TCTGTCACTT GACCTGTTTT CACATTTTCA AATACGACTG    1740

ATTCTACTCG GTTTTCACCC TTGATTTCCC TTACTACAGA ATCCCAGATA AAGCTGATTT    1800

TTTCATTCGC AAAGGCGCGA TCTTGTAAAA CCTTTTGGGC ACGAAGTTGG TCACGACGGT    1860

GAACAATGGT AACAGTCTTA GCAAAACGAG TCAAGAAGAG GGCTTCTTCA ACAGCTGAAT    1920

CTCCACCACC AACTACCAAT AAATCTTGGT CACGGAAGAA AGCACCATCA CACACAGCAC    1980

AGTAAGAAAC ACCACGACTG TTCAGTTCTT CTTCTCCAGG CACTCCCAAA GGACGGTGTT    2040

TAGAACCAGT TGCTACGATA ACTGTACGTG TTTCATATGT TTGGTCATCA GTCATCACTT    2100

TCTTAAAATC ACCATGGCTT CGACATTTTC AACATAACCA TAAATGTGCT CAACACCAAG    2160

ATTTTCAAGT GGTTCAAACA TCTTTTCAGC CAATTCAGGT CCACTAATAT TAGCGTATCC    2220

TGGGTAATTT TCGATATCAG ATGTATTATT CATCTGACCA CCTGGCAGAC CACCTTCAAT    2280

CAAAGCTACT TTTAGATTGC TTCGAGCAGC ATACAAGGCC GCAGTCATCC cTGCAGGTCC    2340

AGCACCGATA ATAATAGTAT CGTACATATA GATTCCTTCT TTCTTGGTGT AACTATCTTT    2400

ATTCTAACTC TG                                                       2412
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(2) INFORMATION FOR SEQ ID NO: 63:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 7760 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 63:

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CCGATTTGGT GGAATTTTTG TCTCATCATT TAGAAGGTGT TGCAAGAGCA GAGTTTACCT     60

TGGTGCTTCA TACCAAATTG GGAGAAGCCT CTGTTTTGGC AAATATTGTA GATGTAAACA    120

AGGATGAATG GATTTTAGGA ACAGTTGCTG GTGCCAATAC CTTATTGGTT ATTTGTCGAG    180

ATCAGCACGT TGCCAAACTC ATGGAAGATC GTTTGCTAGA TTTGATGAAA GATAAGTAAG    240

GTCTTGGGAG TTGCTCTCAA GACTTATTTT TGAAAAGGAG AGACAGAAAA TGGCGATAGA    300

AAAGTTATCA CCCGGCATGC AACAGTATGT GGATATTAAA AAGCAATATC CAGATGCTTT    360
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533

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TTTGCTCTTT CGGATGGGTG ATTTTTATGA ATTATTTTAT GAGGATGCGG TCAATGCTGC        420

GCAGATTCTG GAAATTTCCT TAACGAGTCG CAACAAGAAT GCCGACAATC CGATCCCTAT        480

GGCGGGTGTT CCCTATCATT CTGCCCAACA GTATATCGAT GTCTTGATTG AGCAGGGTTA        540

TAAGGTGGCT ATCGCAGAGC AGATGGAAGA TCCTAAACAA GCAGTTGGGG TTGTTAAACG        600

AGAGGTTGTT CAGGTCATTA CGCCAGGGAC AGTGGTCGAT AGCAGTAAGC CGGACAGTCA        660

GAATAATTTT TTGGTTTCCA TAGACCGCGA AGGCAATCAA TTTGGCCTAG CTTATATGGA        720

TTTGGTGACG GGTGACTTTT ATGTGACAGG TCTTTTGGAT TTCACGCTGG TTTGTGGGGA        780

AATCCGTAAC CTCAAGGCTC GAGAAGTGGT GTTGGGTTAT GACTTGTCTG AGGAAGAAGA        840

ACAAATCCTC AGCCGCCAGA TGAATCTGGT ACTCTCTTAT GAAAAAGAAA GCTTTGAAGA        900

CCTTCATTTA TTGGATTTGC GATTGGCAAC GGTGGAGCAA ACGGCATCTA GTAAGCTGCT        960

CCAGTATGTT CATCGGACTC AGATGAGGGA ATTGAACCAC CTCAAACCTG TTATCCGCTA       1020

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GAATGCTCGC TCAGGTAAGA AACAAGGCAG TCTTTTCTGG CTTTTGGATG AAACCAAAAC       1140

GGCTATGGGG ATGCGTCTCT TGCGTTCTTG GATTCATCGC CCCTTGATTG ATAAGGAACG       1200

AATCGTCCAA CGTCAAGAAG TAGTGCAGGT CTTTCTCGAC CATTTCTTTG AGCGTAGTGA       1260

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TATTCCAAAT ACGATTCAGA TGGCAGAAGA TACCAGTATT CAACTGGTTA CAGGGCCAAA       2100
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534

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CATGAGTGGG AAGTCTACCT ATATGCGTCA GTTAGCCATG ACGGCGGTTA TGGCCCAGCT    2160

GGGTTCCTAT GTTCCTGCTG AAAGCGCCCA TTTACCGATT TTTGATGCGA TTTTTACCCG    2220

TATCGGAGCA GCAGATGACT TGGTTTCGGG TCAGTCAACC TTTATGGTGG AGATGATGGA    2280

GGCCAATAAT GCCATTTCGC ATGCGACCAA GAACTCTCTC ATTCTCTTTG ATGAATTGGG    2340

ACGTGGAACT GCAACTTATG ACGGGATGGC TCTTGCTCAG TCCATCATCG AAATATATCCA   2400

TGAGCACATC GGAGCTAAGA CCCTCTTTGC GACCCACTAC CATGAGTTGA CTAGTCTGGA    2460

GTCTAGTTTA CAACACTTGG TCAATGTCCA CGTGGCAACT TTGGAGCAGG ATGGGCAGGT    2520

CACCTTCCTT CACAAGATTG AACCGGGACC AGCTGATAAA TCtACGGTAT CCATGTTGCC    2580

AAGATTGCTG GCTTGCCAGC AGACCTTTTA GCAAGGGCGG ATAAGATTTT GACTCAGCTA    2640

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TAAAACCAAG ACTCACTAGT TAATCTAGCT GTATCAAGGA GACTTCTTTG ACAATTCTCC    2880

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GGCAGGCCCT GGCTTCGCTC CTGATGACAG GCTTGATGGT TGCTAGTTCA CTTCTGCAAC    3060

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ATTCTGTCAG CCGTGCCATG ATTTCCATGC GTCGTATTCG AGAAATTCTT GACGCAGAGC    3900
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535

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CAGCTATGAC CTTCAAGGAT ATCCCAGATG AAGAGTTGGT TGGAAGTCTT AGCTTTGAAA      3960

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CTCAATTGAT TCCACGTCTC TTTGATCCAC AGGACGGGGC CATTAAAATC GGTGGCAAGG      4140

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AGAAAACCTT TGAAAGTCCA GTTGAAGAAC GGGGAACCAA TTTCTCTGGT GGACAAAAAC      4380

AAAGGATGTC GATTGCGCGT GGGATTGTCA GCAATCCACG TATTCTGATT TTTGATGATT      4440

CGACCTCAGC CTTGGATGCC AAATCAGAGC GCTTGGTGCA AGAAGCTTTG AATAAGGACT      4500

TGAAGGGGAC GACAACCATT ATTATTGCTC AAAAAATTAG CTCGGTTGTC CATGCAGACA      4560

AGATCTTGGT TCTAAATCAA GGACGATTGA TTGGTCAAGG TACGCATGCA GACTTGGTTG      4620

CCAACAATGC CGTTTACCGT GAAATCTATG AAACACAGAA ATGAAAGACA AACTATAAGA      4680

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TCTAATTTAG TCTTAAGATA GGCCTTAAAA GCAGGCGAAA AGCGAGGGCA TGCTTTGGCA      4980

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GGATTATCAA AGGCATGAAT ATTTCGAATC TCAGCTAAAA TGACCGCCCC TAAACGATCC      5160

CCAATCCCAG TAACCGTCGT GATGACCGAG TTGAACTCAG CCATCAAGTC ATTGACACAT      5220

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CGTCTATGCG TTATCAAACT CATTACCAAT TAAAACAAAA AGCTGTGGTT AGATCCTTTC      5340

GGAAATTGTC AAGCGATTGG AGGAAATGAA CTAATCCACA GCGGCTTATT CCAAGTATAC      5400

CACTTGGGCT TTGGCAGTAG CTAACTGCGC TAAATATAAT ATAAGGAGGA GTAAATGAA      5460

GACAGTTCAA TTTTTTTGGC ATTATTTTAA GGTCTACAAG TTCTCATTTG TAGTTGTCAT      5520

CCTGATGATT GTTCTGGCGA CTTTTGCCCA AGCCCTCTTT CCAGTCTTTT CTGGACAAGC      5580

GGTGACGCAG CTAGCCAATT TAGTTCAAGC TTATCAAAAT GGCAATCCAG AACTTGTATG      5640
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536

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GCAAAGCCTA TCAGGAATCA TGGTCAATCT TGGCCTGCTG GTTTTGGTTC TATTTATCTC    5700

TAGTGTAATA TACATGTGTC TCATGACGCG CGTGATTGCA GAATCGACCA ACGAGATGCG    5760

CAAAGGCCTC TTTGGTAAGC TTGCTCAGTT GACGGTTTCT TTCTTTGACC GTCGACAAGA    5820

TGGCGATATC CTGTCTCATT TTACCAGTGA TTTGGATAAT ATCCTCCAAG CCTTTAACGA    5880

AAGCTTGATT CAGGTCATGA GCAATATTGT TTTATACATT GGTCTGATTC TTGTCATGTT    5940

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AATTCAAGAG GATATGATGG CAGGATTTCT TGAACAAAAT GAGCGCGTGC GCAAGGCAAC    6180

CTTTAAAGGA AGAATGTTCT CAGGAATTCT TTTCCCTGTC ATGAATGGGA TGAGCCTGAT    6240

TAATACAGCC ATCGTCATCT TTGCTGGTTC GGCTGTACTT TTGAATGATA AGTCTATTGA    6300

AACAAGTACA GCCCTAGGTT TGATTGTTAT GTTTGCACAA TTTTCACAGC AGTACTACCA    6360

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CAAGATTCAG CATGCCATGG AGGTGGTTGT AGCAGGTAGA ACTAGTTTCG TCATTGCCCA    7080

CCGCTTGAAA ACCATTCTCA ATGCAGATCA GATTATTGTC CTTAAAGATG GAGAAGTCAT    7140

TGAACGTGGT AACCACCATG AACTTTTGAA GCTAGGTGGC TTTTATTCAG AACTCTATCA    7200

CAATCAATTT GTTTTCGAAT AAGAAAGAAG TTGTCCTATG TGGGCAGCTT TTTCTTGTCC    7260

ATAAAAAATG TTTATCACAG CCTTAAAAAA AACATATTAG ACGAAAGTCA TTTTGAGTGA    7320

TATGATAGGA CTATCGTTAG CATTCGAAAG GAGAGGCATC ATGGCTAGAA CGGTTGTAGG    7380

AGTTGCTGCA AATCTATGTC CCGTAGACGC AGAAGGCAAA ATCATTCATT CATCTGTATC    7440
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537

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TTGTAGATTC GCAGAGATCA TTCGTCAAGT CGGTGGTCTC CCTTTAGTCA TTCCTGTTGG      7500

TGATGAGTCA GTTGTACGTG ATTATGTGGA AATGATTGAC AAACTCATTT TGACAGGAGG      7560

CCAAAATGTT CATCCTCAGT TTTATGGAGA GAAAAAGACC GTCGAGAGCG ATGATTACAA      7620

TCTGGTCCGT GACGAATTTG AATTGGCACT CTTGAAGGAA GCGCTTCGTC AGAATAAACC      7680

AATTATGGCA ATCTGTCGCG GTGTCCAACT TGTCAATGTT GCCTTTGGTG GAACCCTCAA      7740

TCAAGAAATC GAAGGTCAGG                                                  7760
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(2) INFORMATION FOR SEQ ID NO: 64:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2723 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 64:

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GAGGTTTTAA TTCACTTACC TCTsCCGTAT CTTTATTTAA AATGAATTCT TTTACGGTTG        60

TATTTCTTGC AAAATCTTTT ACAACAATCT TAATGTTTAG TGTCTTGTCT ATTATTTGTT       120

TAATATCATT AAATGATGTA TATTCTTTTC CATTTATATA AATATGTTGT TCTTGAATCT       180

CACCATCGAA TCCATTATTT CTTTTATCAT TGATGTTAAA GACTACAGAT TTTCCATCAG       240

CATATTCGAT ACTAGTATTT CCCTTAGGAT CAATGTTTAC TTCGGGTTTA ACATTATCAT       300

ATAAAAACTG ATAGTGGACT CCAACTGCTT TAGCATTCAA ATCGCTATAG CCAGTTTGAA       360

GATAAACATT TCCATCCATA TCTGTTACCT TATCTGGAAA TCCGTTTGCT TTATAGTCTT       420

TCATTCCCCA GTCCATGATG TCACCGTCTT TAACATTCAG CTTAATATTA AAATCTCTAG       480

TGTTATCAAT GTGTAAATCT CCGTAGATTA AATAATTATC TACAACCGAT TCATTAACTC       540

TCAATTCCCA GTTAAAACCA CCCTTATCAG AAATCTTACC TCTTAAATAA AATTCTGGAT       600

TTCGTACATA AATTTTATTA GATTTAGATG GATTAAAGTA GTTCTTATCC ATTGAAAGGT       660

TTACTGGTTT GGTATCAATA AATAACATGG AGCCATCTTC TTTTATAGCT TCTACATTGA       720

ACTTATCCTC TCCAGTGTAT TCTTTATCAT CCTTACCAAA TAATACAAGT TTAGAAGAAT       780

CTGTCACAAG ATTTCCGTCT TTATCGATAG CTTCCCCTTT ATCGTTCATT TTAAATGTAA       840

ACACTTGATA CCTTATAATG TTAAAGCCGT CCAAAGCCGA CATTAATACA GATTGGGTAC       900

TTCTTCCATC TTCAACATTT CTACTATCAG CATAAATTGT TGTTTCTGAA AGGGCTCTTA       960

GATTAGGATT GGCCTTTTGT ATTTTTGCTA TATCTTCCTT GCTATAGACT CCATTTCCTT      1020
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538

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CTAACATATC CGTTTTTCCA GGATTATAGG TAGTCACTTT TAGTGCATAG CCTTTTCTTA    1080

GAATGATATT ATCCTTTAAC AGATATTGTT GTTTTTCTGA ATCAGAATAG ATTTTACCAG    1140

ATTCCATTTT AGTTAAATTG TCTGGTTTGT TTTTTGAAAG ATCTCCTTCC CCTAATTCTA    1200

TGACATTCCC ATAACTTGAT ACATAGGGAT ATTCTGATTT AGTTCCTTA  ATTTTTTCAG    1260

GCATTCTAAT TTTAATTTCA GCTTTTTTCT GATCATTATC TTTAACAAAT AATCTCATAT    1320

CTCCTGCAAA AGCTAATCCA TCCACAATAT CATTAATATT AGCGTATAGA TCAAATGTCA    1380

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CATAATATAC CTTGGCATTT TTAGAAACAT TACTTATCTT TCCAAGAATT TCAAAGTGTC    1500

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TATAATCGTA TTCCTCCATT CTCTTACCAG TTTCACTTGT AAAATCATCA ACTTCTCTAA    1680

ATTTCTTTTT AATGAGTTTC TTTAAGTCTT TATTTTCAAA GTCTCTAATT GTTGAAATAT    1740

TTCTATCAAT AGTAAAACTA GATTTTTCTT TAATAGACTC TTCATTTTCT TGATGATGAT    1800

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CAAGAGCGGC GCCAGCATAC CAAACTTCGT TCGCAATCTC GTCAAATTTT TCAGGATGTT    2220

CTTTTTGATC TCTCGCAAAT AGCGTTTCAT TCTTATACTG ATCTTTTACC TTATGATAAG    2280

TATCCTTTGT AATCAACTTA ATTTTTTCAG GATTTGAAAA ATCAACCGAA ACAATCTTAG    2340

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GATTATAGAT GAGTCCATCC CACTTCAAGT CACCCCAAAC TTTTAGTTTA GATGATTTGA    2580

TTCCCTTTGC ATCATTGCTT TTAGAATTTA AAATTCCTCT AATAAAGTGT TCTCTCGAAA    2640

TGACTTTTAA GTCTCTTTGA TTTTCTCCCT CTTTATTTGT ATTTACTATT GAAATCAATC    2700

CTTCTTCTGC ACTTCTTAAT ACA                                           2723
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(2) INFORMATION FOR SEQ ID NO: 65:

539

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 11831 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 65:

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AAAAAAGTGG GAATGACTCA AATCTTCACT GAAGCTGGCG AATTGATCCC TGTAACAGTT        60

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GCTATCCAAG TTGGTTTCGA TGACAAACGC GAAGTATTGA GCAACAAACC TGCTAAAGGA       180

CATGTAGCGA AAGCTAACAC GGCTCCTAAG CGCTTCATTC GTGAATTCAA AAACGTTGAA      240

GGCTTGGAAG TTGGTGCTGA AATTACAGTT GAAACATTCG CAGCTGGAGA CGTTGTTGAC       300

GTAACGGGTA CTTCTAAAGG TAAAGGTTTC CAAGGTGTTA TCAAACGCCA CGGACAATCA       360

CGTGGACCAA TGGCTCACGG TTCTCGTTAC CACCGTCGTC CAGGTTCTAT GGGGCCTGTT       420

GCACCTAACC GCGTATTCAA AGGTAAAAAC CTTGCAGGAC GTATGGGTGG CGACCGCGTA       480

ACAATTCAAA ACCTTGAAGT TGTACAAGTT GTTCCAGAAA AGAACGTTAT CCTTATCAAA       540

GGTAACGTAC CAGGTGCTAA GAAATCTCTT ATCACTATCA AATCAGCAGT TAAAGCTGGT       600

AAATAATAAA GAAAGGGGAA ATCAGTCACA ATGGCAAACG TAACATTATT TGACCAAACT       660

GGTAAAGAAG CTGGCCAAGT TGTTCTTAGC GATGCAGTAT TTGGTATCGA ACCAAATGAA       720

TCAGTTGTGT TTGATGTAAT CATCAGCCAA CGCGCAAGCC TTCGTCAAGG AACACACGCT       780

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CCAAACGTGA AAGTTGCAAC TGCTACAACT GCAAGTGTTC TTGACATCGC AAATAGCGAC      1200

AAACTTCTTG TCACACAAGC AGCTATCTCT AAAATCGAGG AGGTTCTTGC ATAATGAATT      1260

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GAAAATATGT ATTTGAAGTT GACACTCGTG CACACAAACT TTTGATCAAG CAAGCTGTTG      1380

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ACAACATGGA CTTGTAAACC TTGGTAAAGC AGGACGTAGC CGTTGGAAAG GTATCCGCCC          2220

AACAGTTCGT GGTTCTGTAA TGAACCCTAA CGATCACCCA CACGGTGGTG GTGAAGGTAA          2280

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TTTCCGTCCA CGTGCGAAAG GTTCAGCTTC ACCAATCAAC AAACGTACAG CTCACATCAC          3120

TGTAGCTGTT GCAGAAAAAT AAGGAGGTAA AATCGTGGGT CAAAAGTAC ATCCAATTGG          3180

TATGCGTGTC GGCATCATCC GTGATTGGGA TGCCAAATGG TATGCTGAAA AAGAATACGC          3240
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541

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ACTTAACAAA TTGACTGGAA AACAAGTACA CATCAACATC ATCGAAATCA AACAACCTGA    3480

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542

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543

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544

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GTAGCCGTAT CACTTCATCT ATCATTTTCG TAATCATTTT GATTATTACT GTATTGTTGA     10200

TTATTTACTT TACAACTTAT GTTCAACAAG CAGAATACAA AATTCCAATC CAATATACTA     10260

AGGTTGCACA AGGTGCTCCA TCTAGCTCTT ACCTTCCGTT AAAAGTAAAC CCTGCTGGAG     10320
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TTATCCCTGT TATCTTTGCC AGTTCGATTA CTGCAGCcTG CGGCTATTCT TCAGTTTTTG    10380

AGTGCCACAG GTCATGATTG GGCTTGGGTA AGGGTAGCAC AAGAGATGTT GGCAACTACT    10440

TCTCCAACTG GTATTGCCAT GTATGCTTTG TTGATTATTC TCTTTACATT CTTCTATACG    10500

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CATGGAGTTC GTCCTGGTAA AGGTACAGAA GAATATATGT CTAAACTTCT TCGTCGTCTT    10620

GCAACTGTTG GTTCCCTCTT CCTTGGTGTG ATTTCCATTT TACCGATTGC AGCTAAAGAT    10680

GTATTTGGTC TTTCTGATGT TGTTGCCTTT GGTGGAACAA GTCTCTTGAT CATTATCTCT    10740

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CGTTTGAGTG GGCGTATCAT CCACCGCGTA ACTGGAGAAA CTTTCCACAA GGTCTTTAAC    11400

CCACCAGTTG ACTATAAAGA AGAAGATTAC TACCAACGTG AAGATGATAA GCCTGAGACA    11460

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GCCAAAGGTT TGGTTCATGA CATCGAAGGT AATCAAGATA TCAATGATGT CTTCTCAGAT    11580

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CAAATGTTAT ACTGAGATAG TCTGACTTAT AATTGTTGTC TCTGTGTCTA GAGGCATCGA    11700

ATCGAAATTT ATGGAGGTGC TTTTGCGTGG CAAAAGACGA TGTGATTGAA GTTGAAGGCA    11760

AAGTAGTTGA TACAATGCCG AATGCAATGT TTACGGTTGA ACTTGAAAAT GGACATCAGA    11820

TTTTAGCAGG G                                                        11831
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(2) INFORMATION FOR SEQ ID NO: 66:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 10726 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double

546
(D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 66:

CCCGGCATTT GAAAGCTATT CGTGAAGGAT TTATGATGGC AATGCCTTTG ATTTTAGTCG   60

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GTGTTGGATT GCTAAGTATC TTGACAACTA TGAATCAGTC AACAGTAGCG ATTATCTCCT   180

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TAAGTAAATC ATTTTCAGCT CTTTTATCTG GTTTTACTAC TTTTGTTTTG TGGGCTTTGG   540

TCTTAAAAGG TCTTGAAGCG GCAGGAGTTG CAGGAGGTCT CAACGGACTC CTAGGTGCAA   600

TTGTTGGAAC ACCGCTTAAG TTAATTGCAG GAACGCTTCC AGGTATGATT CTATGTGTTA   660

TTGTAAACTC ATTCTTTTGG TTCTGTGGAG TTAATGGGGG ACAAGTTTTA AATGCTTTTG   720

TAGACCCAGT TTGGTTACAA TTTACTACAG AAAACCAAGA AGCTGTGGCT GCAGGACAAA   780

CACTCCAACA CATTATTACA TTACCGTTTA AAGATTTATT TGTATTTATT GGTGGCGGTG   840

GAGCGACTAT TGGTCTTGCG ATTTGTCTCT TCCTATTTAG TAAGAGTCGT GCGAATAAAA   900

CATTAGGTAA GCTAGCTATT ATACCGTCTA TTTTTAATAT CAATACAGCT ATTCTATTTA   960

CGTTTCCAAC AGTTTTAAAT CCGATTATGC TGATTCCGTT TATTGCTACT CCTACAATCA   1020

ATGCCTTGAT TACCTATGTA TCAATGGCTG TAGGATTAGT ACCCTATACA ACAGGTGTAA   1080

TCCTTCCGTG GACAATGCCA CCGATTATAG GAGGCTTCCT TGCAACAGGG GCTAGTTGGC   1140

GAGGAGCTCT ATTACAAGTT GTTTTGATTT TGGTTTCTGT AGCAATTTAT TATCCATTCT   1200

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GCGGATATTT TTGTAGGATT AGTCAATAAA GAGGACAGAA AAGACCATGT TCTTATCTCA   1440

TTAGACAAGG GTAAGGGGAG AATTGAGTCT AATACAATTG TAGGTTTACT TATTGGAATT   1500

TACCGAATGT TTCATGAATT TGGGGTTGTG TATACTAGAC CAGGGCGCAG ACATGACTTT   1560

GTTCCAGAGT TACGATTTGA AGATTTTTTA GATAAACAGC TATCTATAGA TGAAACAGCC   1620

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AGTTACTATC ATAGGGGAGT ATGTATAGAG GGAGCGGATT CATTTGAAAA TATACTAGAT    1680

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TACTCTTTTT TGAAACGTTG GTATGAACAT GAATTTAATC CATATCTAAA TAAAGAACAA    1800

TTTTCAAATG AATTAGTACA AGAATTGAGT GATAGGTTGG ATAAAGAATT GCAAAAAAGA    1860

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TGGGCACCTC AGAAAGAAAA ATTAGATAAT CCTGAACGCT TTACCATGAT GTTTGCACCG    2340

ATTACAAGAA CATTTGAAAT GAGTTATGCA GATGTAGATT TTGACAATTC CATACCTACG    2400

CCTAAACCTT ATATGCGTAA TAAAATTATA CTTCCGAATT CTCTTGAGGA AAATTTATCT    2460

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TTCTATTTAT ATCGTAGCGA AGTCATTTTA ATAATGATGT GTAAAAGATG GATCAAGATT    3300

GAGGAGGAAG AAAGATGAAA TCAAAAGAAG AAATAAATAT GCTTGGTTTT ACAATTGTCG    3360
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CTTACGCAGG AGATGCAAGG TCAGATTTGA TGGATGCTTT GGCGTTTGCG AGAGATGGAT      3420
ATTTTGAACA GGCAAGAGAA TTGGTTGAGT CTGCAAACGA CTCAATAGTG TCTGCCCATC      3480
GAGAACAGAC TAATTTATTA GCGGAGGAGG CATATGGAGA TAATTTTGAA GTGAGCTTTA      3540
TTATGATTCA TGGTCAAGAT ACTTTGATGA CAACGATGCT ATTGTATGAT CAGGTAAAGT      3600
TTTTTATTGA TGAATATGAA CGAATTCGAA AGATTGAAGA ACATATTGGT TTGCAATGAG      3660
GATTAGTCAT GGAAAATTTA CAGGTTAAAG CCTTACCGAA GGAGTTTTTA TTAGGAACTG      3720
CTACCGCTGC TTATCAAGTA GAGGGTGCAA CTAGGGTAGA TGGCAAAGGA ATAAATATGT      3780
GGGATGTTTA TTTGCAAGAA AATAGTCCGT TCTTACCAGA TCCAGCTAGT GATTTTTATT      3840
ATCGTTACGA AGAGGATATA GCTTTGGCGG CAGAACATGG TTTGCAGGCT TTGCGTTTAT      3900
CTATTTCTTG GGTTCGTATA TTTCCTGATA TAGATGGGGA TGCTAATGTA TTAGCTGTTC      3960
ATTATTACCA TAGAGTTTTT CAGTCTTGCT TAAAACATAA TGTGATTCCG TTTGTTTCTT      4020
TACATCATTT TGATTCGCCT CAGAAAATGT TAGAAACAGG GGATTGGTTG AACAGAGAGA      4080
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AGAAAGTGC TCTTTGGGTA AAAGGGCTAA AACGGAATTA AGGTTAGCGA TTTGACTGAT      5100
GTTTAATATG TTTTAAATAT GAGGTTGAAT TTTTTATAGG AGGAGTTTTA TGGATAAGCT      5160
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GATGGCTATT AAAGATGGAT TCATTGCTAC TATGCCTTTA ATTATGTTTT CAAGCTTTTT        5280

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AAGATTAGGT ATTCAGATAG TTGCTACCAG AGGAATGGAA TATATTCATT TAACAAAGAG        6780

TCCAAGTAAA GCCTTACAAT TTGTATTGGA GCATTACCAA GCTGTGTAGT AAGTTTTTCC        6840

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CTTAGACCAA GTTCTCTTCA TAAAGAGAAG GAGGATTGGG TAAATCTCCA AGCGCCCTGC        7020

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GGTTCCTAGA ATAGGCCCGA TATTATTGAA ACAGCTAAAG ACAGCGCTGG TCACGACCAG        7140

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TACCTTCCAC GGTCGTGATG TCTATGCCTA TACTGGTGCT AAACTGGCCA GTGGTCACAT   10380

TACTTTTGAG GAAGTAGGGC CAGAGCTCAG TGTGGAACAG ATTGTAGAGC TTCCAGTCGT   10440
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CGGTTCGCTT TGGACCTCTA TCACACGGGA AGAATTTTAC AAGCTGGAAC CAGAATTTGG      10560

TGATCGTTTT GAAGTGACCA TCTATCATGC TGATATGCTG GTCTATCAAA ATCAGGTTGT      10620

CTATGGCAAA TCATTTGCAG ATGTGAGAAT TGGGCAACCs ATcTTTACrc TCAGCaTCTt      10680

CGATTAGCTG GGCAATTCGT TCTAGTTGGA TTTCGTCAAT CAAGGT                     10726
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(2) INFORMATION FOR SEQ ID NO: 67:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 7163 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 67:

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TTATCTTTAA CGATATCAAT CAAGATCTGG TCAATAAAGG GATTGGGGCT TATCGTGAAG        60

TTGGCATCCA AGCCCATGGA TATGTCTGTG ACGTGACAGA CGAGGACGGT ATCCAAGCCA       120

TGGTCAAGCA AATCGAACAA GAGGTTGGTG TCATTGACAT CCTCGTTAAT AACGCTGGTA       180

TTATCCGCCG AGTTCCAATG TGCGAAATGA GCGCCGCTGA TTTCCGTAAG GTCATCGATA       240

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GGCATGGAAA GATTATCAAT ATTTGTTCGA TGATGAGCGA ACTGGGACGT GAAACAGTTA       360

GCGCTTATGC TGCTGCTAAA GGGGGCTTGA AAATGTTGAC CCGCAACATT GCGTCTGAAT       420

ACGGTGGAGC CAATATCCAA TGTAACGGAA TTGGACCGGG TTATATTGCC ACTCCTCAAA       480

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AACTGACCCT CAAATTGATG TTTGAACGCT TATTTGCTGA AGAAATGGGC GGTGGCTACC      1140
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CAAGAGAACG TGTAATCCCT GAACAACGCA ACGCTCGTAT CTTAAACGAG GTGAAACAAA        1200

TCACCCACAA TGATTTGATG ACCATCCTTA AAATAATCGA CCAAGACTTC CTCAAAGACA        1260

CCATCTCTGG CAAATACTTC CAAGAATACT TCTTTGAAAA CTGCCAAGAT GATGAAGTTG        1320

CTGCTTATTT GAAAGAAGTA TTAGCCAAGT AAAGCTATTC TAAACCAGAA AGGAACTAAT        1380

GGATGACGAA AATATTACTG TTTGGCGAAC CATTAATTCG AATTTCACCA TTAGATGCCA        1440

CCAGTATCGG CGATCATGTT GCCAGTTCGA CTTATTTTGG CGGATCAGAA ATTAACATCG        1500

CTTGTAATTT GCAAGCCCTG GGTATCTCAA CGAAAGTTTT TACCGCACTC CCTGCCAACG        1560

AGATTGGAGA TCGTTTCTC ACATTCTTGA AACAGCACCA AATCGATACC AGTTCAATCT        1620

GTCGGCTTGG CGATCGAATC GGCCTCTACT ATTTGGAGAA CGGCTTTGGT TGTCGTCAAA        1680

GTGAAGTTTT CTACGATCGT AAGCATACGA GTATCAGCCA GATTCGGCCA AACATGCTAG        1740

ATATGGATTC TCTCTTTCAG GGGATTAGCC ATTTTCATTT TAGTGGAATC ACCGTAGCTA        1800

TCGGTCAAGA GGTCCGTGCG ATCCTTCTCC TACTCTTGGA AGAAGCCAAG CGCCGAGGAA        1860

TTGTCGTTTC AATGGATCTC AATCTGAGAA CAAAGATGAT TTCAGTCCTA GAAGCCAAGT        1920

ATGAATTTTC TAAGTTTGCA CGTTTTACTG ACTATTGCTT CGGTATTGAT CCTCTCATGA        1980

TTGATGACCA AAATCTAGAG ATGTTTCCAA GAGACAGTGC TAGCCTAGAA GAGGTGGAAA        2040

ATCGCATGCG ACTTTTAAAA GAAGCCTATG GTTTCAAGGC CATTTTCCAT ACCCTCCGCT        2100

CTAGTGATGA GCAAGACAAA AATGTCTATC AAGCCTATGC TCTAGAAGAA CTATTTGAAG        2160

AGTCTGTCCA ACTAAAAACT GCAGTCTATC AACGAATTGG TAGCGGGGAT GCCTTTATAT        2220

CTGGTGCCCT TTACCAACTA CTCCATCATT CCTCCCTAAA AACTACCATT GACTTTGCAG        2280

TTGCGAGCGC AACTCTCAAA TGCACTCTTC CAGGAGACCA TCTCTCCACT TCCTCAACTA        2340

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AATCAGATAC GATTATTGAA CTAAAAAAAC AAAAAATTGT CGCTGTTATT CGAGGAAATA        2460

CAAAGGAAGA AGGACTACAA GCCTCGATTG CTTGTATCAA GGGCGGTATC AAAGCTATTG        2520

AAATCGCCTA TACCAATCAG TATGCAGGAC AAATCATCAA GGAACTTGTA GACTTGTATC        2580

AGGACGATCA GAGTGTTTGT ATCGGTGCAG GTACTGTGCT TGATGCCGTA ACTGCTAGAG        2640

ATGCCATTCT AGCTGGAGCA AATTACGTTG TTTCTCCATC TTTCCATGCT GAAACTGCGA        2700

AAATGTGCAA TCTCTACAGC ACACCGTACA TTCCAGGCTG TATTACCCTC ACAGAGATCA        2760

CGACTGCACT TGAAGCCGGT AGTGAAATCA TCAAACTCTT CCCAGGTAGT ACTCTCAGTC        2820

CAGCATATAT CTCTGCAGTC AAGGCACCGA TCCCACAAGT TTCCGTAATG GTAACCGGAG        2880
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GAGTCGGCCT AAACAACATC CCTCAATGGT TCGCTGCTGG TGCAGATGCC GTTGGAATTG    2940

GTGGCGAACT CAATAAACTC GCTTCCCAAG GCAACTTTGA CCGCATCAGC GAGATTGCCC    3000

AACAGTATAT TACACTCAGA TAAAATCATA ACTACCCGTC TAACGGGTGG TTTATCTCAG    3060

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TTCATACTCA TGAAGAAATC ATCCACTCGA TAATTTCTTT AATCTTGACT ATATTTCTTA    3420

ATTGTGGCTT CATTAAGCCC TACTGGACTT ACATAATAAC CTTCCTCCCA GAAATGCCGA    3480

TTCCCAAACT TGTACTTGAG ATTGGCGTGT TTGTCAAACA TCATGAGTGC ACTTTTGCCT    3540

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GTTAGGAATG AGCATATAGC CATAAGAATC TCTATTTTGC TTATGAGCCT GACTAATCGT    4680
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AAGAAATTCA TTTTCAACTT CCTTGTCTGA CTGTCCTTCA TTGATATCCT TCCAGGCTCC    4740

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CTTTTTCGAA TCGAACGATT CTAAAAAGAC ACTTTGGGTT TCAGGATAAT CCTTTTCTTG    4860

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CAACAGTTGA GACAGGCCAT CAATCAAAAC ATTCCCATAA GCACCCGTAT AGGCAACATT    5820

GGTGTGGTCG ATATAGGATC CATCTTGATA AAAACCTTCA CCTTGGTCTA CCAACTTGAA    5880

CACTTGCTCA ATCGAGCGAA TGGTAGAAGA AATTTCTTGA TCATCCTTAC GCAGTAAACC    5940

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ATCAGTCGTC TTTCGGAAAT GTTCGGGATC TGGTACAAAT TTTTCAATCA CATCTGTATA    6060

TTTTTTAATT TCCTCATCAG AGAAGTATTC TTTCATCAGA GACAAGGTAT TGTTGATGGC    6120

ACGAGGTGTA CCGATTTCAT AATCCCACCA GTTCCCAACA ATGCTCTTTT CACTATTGTA    6180

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GGCAGTCAGA TTTGCAGACG TTTTATAATT TGAAAATTTT TCCCACAAAT AGGTGCGGTC    6360

CGCCTGACTT GAAATACTGG ATAGGCTATC AGCTACCTTT CCTTCCAATT CCTGGTTTAA    6420
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556

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GTCATCCAAA CGGTCTGTGT ATGCATCCTT AACAGAGGCC AGAATCTTCA AAGGAATCTT        6540

TTTCACTTCC TTGCCATCTT TACTGACAAT GACATTGGTT GTCCCTTCCT TAAGAGGTTC        6600

TAAAATTCCA TTTTTGACTG AAGCAACGTC AGGATTTTCT ACCTTATAAG TATAGTCCGC        6660

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CGGGCTATAG TCTGCTTCAA TGGTCTGCCA GTCCTTTGTT CCTGACGTCG TTGCAGAATT        6900

CCACAATCGC TTGTCCTTAC CACTTTCCTC AATGATACGA ACTTTGGCAA TCCCGATTTT        6960

ATTATCTGTT TTAATCTTGA AACGCAGTTT ATACTTTTTC TTAGCTTCAA TAGGAACCAT        7020

ACGGTGAAGC GCTGCCCTTA ATTTCTCATG GCTTGAGATA GTGATAGCCC CATCCTTAGC        7080

CTCAATGACT CGAGTTGAGG CATCTGCACT ATTCTTCTGG TCTACCCAAG CTGACCACCC        7140

CCTGAGCTTT GCTTCCTGTC CGG                                                7163
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(2) INFORMATION FOR SEQ ID NO: 68:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 9244 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 68:

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CGTTATAACA TACATGTAAG CGGTACCCAA AATGGTGCCA AGTCAAAATT TTTAAGGAGG          60

AAAATACATG TCTTCACATC CAATTCAGGT CTTCTCAGAA ATTGGGAAAC TGAAAAAAGT         120

TATGTTGCAC CGTCCAGGCA AGGAGTTAGA AAACTTGTTG CCGGACTATC TTGAAAGGCT         180

TCTTTTTGAT GATATTCCTT TCTTGGAAGA TGCTCAAAAA GAACATGATG CATTTGCCCA         240

AGCTCTTCGC GATGAAGGAA TTGAGGTTCT CTACCTAGAA CAACTCGCTG CTGAATCATT         300

GACCTCTCCA GAAATCCGCG ATCAATTTAT CGAGGAATAC TTAGACGAAG CCAACATCCG         360

TGATCGTCAA ACCAAGGTTG CTATTCGTGA ATTGCTTCAC GGCATCAAGG ACAACCAAGA         420

ATTGGTTGAA AAAACAATGG CTGGGATTCA AAAAGTTGAA TTGCCAGAAA TTCCTGACGA         480

AGCTAAAGAT CTAACTGACT TAGTTGAATC AGAGTATCCA TTTGCAATTG ACCCGATGCC         540

AAACCTCTAT TTCACTCGCG ACCCATTTGC AACAATTGGA AACGCCGTAT CGCTTAACCA         600

CATGTTTGCA GACACTCGTA ACCGTGAAAC ACTCTACGGT AAGTATATCT TCAAATACCA         660
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557

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CCCAATCTAT GGCGGAAAAG TGGATTTGGT CTACAACCGT GAAGAAGATA CGCGTATCGA      720

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CACTATGGTA GACTATGACA AGTTCACTAT TCACCCAGAA ATCGAAGGCG ACCTTCACGT      960

TTACTCAGTT ACTTACGAAA ACGAAAAACT TAAAATCGTT GAAGAGAAAG GTGACTTAGC     1020

TGAACTTCTT GCTCAAAACC TTGGTGTAGA AAAAGTTCAT TTGATTCGTT GCGGTGGTGG     1080

CAATATCGTA GCAGCTGCGC GTGAACAATG GAACGACGGT TCTAACACTT TGACCATCGC     1140

ACCTGGTGTG GTAGTTGTTT ATGACCGCAA TACCGTGACC AATAAGATTT TGGAAGAATA     1200

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CTTCCTACAC TGCTTGCCAG CATTCCACGA TACTCACACT GTTTATGGTA AAGACGTTGC     2220

TGAAAAATTT GGTGTAGAAG AAATGGAAGT AACAGACGAA GTCTTCCGCA GCAAGTACGC     2280

TCGCCACTTC GATCAAGCAG AAAACCGTAT GCACACTATC AAAGCTGTTA TGGCTGCTAC     2340

ACTTGGTAAC CTTTATATTC CTAAAGTATA ATTTTAGATA ATAAACCGTC TACCAACAGC     2400
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558

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TATGAGGGCT GCGACTAATA GCTTTAGTCC GGTCCTCTTT TATGTAATGG TAATCTATTA    2460

TTTCTTATAA AATATGTGAA AAATCATTAA ATTGAAATCT AAACGCATTC TATTGAGTGT    2520

GATAAAGGAG AATTTATGGC AAATCGTAAA ATTGTAGTAG CTTTGGGAGG AAATGCGATT    2580

CTTTCTTCTG ACCCATCAGC AAAGGCTCAA CAAGAAGCTT TAGTTGAAAC AGCTAAGCAT    2640

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CCTCGGTGGT ACAACTTATG GTATGGGTGA AGAAACAATG GCCTTCTATC CACTCCTTGT    4140

GCCAGTTATG ATGGCCGTTG GTTTTGATAG CCTGACTGGT GTTGCAATTA TTTTGCTCGG    4200
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559

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TTCTCAAATC GGCTGTTTGG CATCTACTCT GAATCCATTT GCGACAGGTA TTGCTTCAGC    4260

GACTGCGGGA GTTGGTACAG GGGACGGTAT CGTACTTCGT CTGATCTTCT GGGTTACCTT    4320

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CCTCTATGAA CAGGTTTGTA ACGGTCTCAA AGAAGCTGGT TATGATTACC AAACCACTGA    5940
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560

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ACAAACCGTA ACGGTTCTCG GAGTGCCAAA GCATGCTAAG GATGCTAGTC AAGGTATCAA    6000

TGCTGTCATC CGACTAGCTA CCATTCTTGC TCCTCTCCAA GAACACCCTG CTCTCAGTTT    6060

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TGTATATCGA TGTTTTTTGT TTTTCTTAAT AAACGCAATA CAAAAAGAGC CTGTTACCAA    7680

GCTCTTTGTA CTCAATGAAA ATCAAAGAGC AAATTAGGAA ACTAGCCACA GGTTGCTCAA    7740
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561

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ATTTGTGTTC GGATATCATC CACACCATTT GGAGTATTTG GTAAAAAGAT AGTTTGATTT      7980

CCTTTAGAGG CAAAGGTATT CAAGGTATCC AAATACTGGT TGGTCAAGAG GATAGACATG      8040

ATTTGTTCTT CTGTCATGCC AACATTGGCT TCCTTGAGTT CGGTGATAGA CTCTGCCAAT      8100

CCATCCACAA TCGCCTTACG TTGTTGGGCA ATCCCCACAC CATGAAGGCG GTCTTTTTCT      8160

GCTTCTGCTT CAGCTGCAGT GACAATTTTA ATCTTGTCAG CTTCCGCCAA TTCTTGTGCT      8220

GCGACCCGCT TACGTTGCGC CGCATTGATT TCATTCATGG ATTGCTTAAC TTCTGCATCT      8280

GGTTCGACCT TGGTAATCAA GGTTTTCACG ATAATGTAGC CGTAAGTGGT CATTTCTTCT      8340

GCTACTTGGT GTTGAACTTC AAGGGCAATC TCATCTTTTT TCTCAAACAA TTCATCCAAG      8400

GTTAATTTTG GAACAGAAGA GCGAAGAGCA TCTTCGTATAT AAGATTTAAT CTGAGATTCT      8460

GGACGTATGA GTTTATAGTA AGCATCTGTC ACGCTCTGCT CGTTGACACG GTACTGAGTC      8520

GCTACATTCA TCATAACGAA CACATTGTCC TTGGTCTTAG TCTCAACCAC AATATCACTT      8580

TGCAACAAGC GCAACTGAAT CCGTGCTGCA ATCGAGTCAA TCCCAAAAGG CAAGCGAATA      8640

TGAATACCGC TATTAGCAAC CTTTTGGTAT TTCCCAAAGC GTTCAATAAT CGCCACCGAC      8700

TGCTGACGAA CCACATAAAC TGTACTCAGT GTGACTATCA CCAATAGGAG CACACAAACA      8760

ATCAGAAAAA TCATGAAAAA TATTGCCATA ATGGAACCTC CACAAGTATT TTTCTAGTAT      8820

TATAGCACAT TTAAAGAAGG CTGTGCCGTT TTTACTGCGA TTTTTCCTGA AATGTCAATA      8880

ATTAGAGGTG AATTGTCCTA TTGTCGTCCA ATCTCTTGCT AAAATAACTC TTTATAAAAG      8940

GCAATCGTTT CTTCTAAGGT TGGCATAAAT GGATTTCCTG GTGCGCAGGC ATCAATCAAG      9000

GCATTCTTAG AAAGGTATTC AAAGTCGAAA TCTTTTTCTT CAATACCAAG TTCAGTCAGT      9060

TTCTTAGGAA TACCTACTGT CTCAGAAAGC TTCTCAATCT CAGCAATCGC ATAATCGGCA      9120

CATTCTTGAT CTGATTTACC TTCTACATGA AGTCCCAAGG CTTTGGCAAC ATTGCGGAAA      9180

GCTTCTGGTA CACGTTTAGC ATTTTCACGT TCTATAACTG GTAGCAACAT GGCACAGCAC      9240

ACGG                                                                  9244
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(2) INFORMATION FOR SEQ ID NO: 69:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 8898 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double

562

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 69:

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GATCTGAACT TTATCATCAT AACTTAATTT CATAATAAAA ACACCCCAAA AGTTAGATTT      60

TTTCTGTCTA ACTTTTGGGG TGTAGTTCAG TCATTGGACT GACGTTTTTT TGTATGCTTA     120

TTTTGATTTG ATGTAGTTGA TACCATCTGC TTTTGGTGCG ACTGCTTTTC CAAAGAAGGC     180

TGCTAAGACA AGAATTGTCA AAACATAAGG TGCAATTTGA AGATAAACCG CTGGCACTCC     240

TTGTAGGAAC GGCAATTGAG AACCGATAAC AGCCAAACTT TGTGAAAGTC CAAAGAAGAG     300

ACTAGAAAGC ATAGCACCGA TTGGATTCCA TTTCCCAAAG ATCATCGCAG CAAGGGCGAT     360

AAATCCAGGT CCAACAATAG TTGTCACTGA GAAGTTAACT GAGATTGATT GCGCATAAAT     420

CGCTCCGCCA ATTCCACCTA GAAAACCTGA AATAATAACC CCTAAATATC TCATCTTGTA     480

GACGTTGATT CCCAAGGTAT CCGCTGCTTG AGGATGTTCA CCGACAGAGC GGAGACGAAG     540

ACCAAATTGA GTCTTAAAGA GAATAAACCA AGCAAGGAAT GAGAAGGCAA TCGCCAGATA     600

ACCAAGTAGA CTAGTTGACT TGAAGAAGAT ATCACCAATC ACTGGGATAT TTGCCAAGAC     660

TGGGAAATCA AAGCGTCCAA AAGTTTGACT TAGGTTGTCG GTTTGTCCTT TGTTATAAAG     720

AACTTTAACT AAGAAAACAG CCAAGGCAGG CGCCATCAAG TTCAATACCG TACCGCTGAC     780

AACATGGTCT GCACGGAAAT GAACCGTCGC TGCTGCGTGG ATGATAGAGA AAACACTACC     840

AACCAATCCT GCTACAAGCA AGGATAGCCA TGGAGTTGCT GCTCCAAATT GTTCTGCAAA     900

TTCAAGGTTA AAGACAACTC CAGAAAAGGC ACCCATAACC ATAATTCCTT CAAGGCCAAC     960

GTTTACCACA CCACCACGTT CAGAGAAAAC ACCACCGATA CTTGTAAAGA TGAGAGGTGC    1020

TGAGTAAATC AGCATAGAAG ACACCAAGAG GGGGAGCAAG GTTATAATAG ACATCTTTAC    1080

TTACCTCCTT TAACTTGTTT TTTCGGTTTG ACAAAGCGTT CGATAAGGTA ATGAACACTG    1140

ACAAAGAAGA TAATAGACGC TGTTACAATG CTGACAAGCT CAGATGGTAC CTGCGCCGCA    1200

TTCATACCAG GAGCCCCAAC TTGGAGAACG CCAAATAGGA AGGCTGCAAA GAGTATACCA    1260

ATTGGTGAGT TGGCCGCAAG CAAACTAACC GCCATTCCGT TAAATCCGAT AGCTAATGAC    1320

GAACCTTGAA CATAGACGTT CTGGAAGGTT CCCAAACCTT CAACAGCTCC ACCAAGACCT    1380

GCCAAGGCAC CTGAAATAAT CATAGATAGG ATAATAGTCC GCTTGGCAGA AATACCAGCA    1440

TATTCTGAAG CATGTGGATT AAGACCAACT GCACGGATTT CAAAACCAAG AGTTGTTTTC    1500

TTGAGCATGA ACCAAATAAC TGCAACGGCA ATGATGGCAA AGAAAATACC AATATTCATC    1560

CGTGAGTTAC CAGTCAACTC AGCCAACCAA GGTGTCTGAT AGGTTGCATT AGCCCCAACA    1620
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563

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CGAATGGTCG AATCTGTACT TTGCATGAAG TCTTTAGGGA AAGCATGGAT AAAGGCATTC      1680

CCTACATACA AGACAATGTA GTTCATCATG ATGGTTACAA TAACCTCTGA CGTCCCTAGA      1740

TAGGCCCTAA GAATACCTGG AATCGCTCCG ACAATCCCAC CAGCAATCAA GGCAATCACG      1800

ATGGTTGCTA GAATCATCAA GGGACGGGGC ATATCTGGAT GCGACAGGGC AAACCAACCA      1860

CTGAGAATCC AACCTGCCAA AGCCTGACCA GGAAGTCCGA CGTTAAAGAA ACCAGCTCGA      1920

CTGGCAACGG CAAAACCAAG ACCAATCAAG ACCAGAGGAC CCATAGCACG GAAGATTTCT      1980

CCAATCCCAC GCAGACTGCC AAAGGCTGTA TAGAACAATT CTTCGTAGCC CCAAATAGCA   .  2040

TCATAACCGA AGATCCACAT GACAATGGCT CCGAGTAAAA TTCCTAGGAA TACAGAAATC      2100

AAGGGAACCG AAATTTGTTG TAATTTTTTA GACATCACTC TTCTCCTTTC CCAAGTTTCC   .  2160

ACCAGCCATC AAGACACCAA GTTCTTGTTT ATTGGTTGTT TCTGGTGATA CAATACCTTG   ·  2220

AATCTTACCA TCGTGGATAA CGGCAATACG GTCTGAGACG TTTAAAATCT CATCCAATTC      2280

AAAGCTGACA ACAAGGACAG CCTTGCCATT ATCACGCTCT TCAATCAAGC GTTTGTGGAT      2340

ATACTCAATG GCACCGACAT CCAACCCACG AGTTGGCTGG CTAACGATAA GGAGATCAGG      2400

ATCTCGATCA ATTTCACGAG CAATAATTGC TTTTTGTTGA TTTCCTCCTG AGAGTGCAGC      2460

TGCAGGAACT AATTCACTGG CAGCGCGAAC ATCAAACTCT TCCATCAGCT TTTTAGCATA      2520

AGAAGTAATA TTTGAATAAT TCAAAATTCC ATTTTTACTA TGTGGTTCTT TATAGTAGGT      2580

TTGAAGGGCA ATATTTTCAG ATATCATCAT TTCCAAAATC AAGCCATCAC GGTGACGGTC      2640

TTCTGGAACG TGCCCAACAC TTAGTTCTGT AATCTGACGT GGGTGCAAGC CTACAATTGA      2700

ATCTCCTTTT AGCTCAATGC TACCAGATTC AACCTTACGA AGACCTGTAA TGGCTTGAAT      2760

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ATCCAAGGAC AGATTTTTAA CAGCTGGAAC ACCACGGTTT TCATTGACCA CCAAATCTTT      2880

GATAGACAAA ACCACTTCTT TTGGTTTAGA GGCTTGCTTC TCTGTTTTAA AGGAAACAGA      2940

ACGTCCTACC ATCATTTCCG CCAAATCAGC ATTGGTAGCC CCTGCAATTT CAACGGTTTC      3000

AATTGATTTC CCACGACGGA TAACTGTAAC ACGGTCAGAA ACTGCTCGAA TTTCATCCAA      3060

TTTGTGGGTA ATCAAGATAA TTGATTTTCC TTCTTTGACA AGATTTTTCA TAATAGCCAT      3120

CAACTCATCA ATTTCTGATG GAGTCAAAAC AGCCGTTGGT TCGTCAAAGA TAAGGATATC      3180

AGCCCCCCGA TAAAGTGTTT TTAAAAATTTC TACACGTTGT TGGGCTCCAA CTGAGATATC      3240

TGCTACCTTG GCAGAAGGGT CAACAGCTAA GCCATAACGT TCAGAAAGAG CCTTGATTTC      3300

TTTGCTAGCT CCAGCGATAT CTAGCACACC ATTTTTAGTC AATTCACTAC CTAAAATGAT      3360
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564

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GTTTTCAGCC ACTGTGAAGG CTTCAACCAA CATAAAGTGC TGGTGAACCA TCCCGATTCC      3420

CAAGCTAGCT GCTTTAGATG GGGAGTCGAG ATTGACAACT TGACCGTTGA CCGCGATTTC      3480

ACCACTAGTT GGTTCAAGAA GGCCTGCTAA CATGTTCATT AGCGTGGACT TACCAGCCCC      3540

ATTTTCTCCT AAAAGTGCAT GAATTTCACC TTTTCGTAGG TGCAAGTTGA TTTTGTCGTT      3600

GGCAACAAAT CCACCAAACA CCTTGGTAAT ATCACGCATC TCAATGACAT TTTCGTGTGC      3660

CATGTGCTCT TCCTTTCAGA GTCTTATTTT ATTTCAATAA AACTTGCTAG TTTGTCTAGT      3720

AGCAAGCTTT ACTTAGACAA AATGACTTTG TCTCAACTCT TAAAAAAGCG GCCCTTGGCC      3780

GCTTCCTAAG AAATGACTTC CATCCATTAT TTTTCAGGAA CTTTTACGCT TCCATCAAGG      3840

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AAGTCAACCC CTTTATCCTT CAATGAGTAA ACGATCACTT GACCGCCAGG GAATTCTCCT      3960

CTTTCTGCCT TGTTAGAAAT ATCTTTTACA GTTGTACCAA CTTGTTTCAA AGTAGATACA      4020

AGAACAAAGT TTGATTCTTT GCCATCTTTA GAAGTGTATT TACCTTCTGC TTCTTGGTCA      4080

CGATCAACAC CGATAACCCA AACTTTTTCA TTTTCAGGAC GGCTTTCGTT GAGAGATTTT      4140

GCCTCTGCAA AGACACCTGC ACCTGTACCA CCAGCTACTT GGTAAACAAT ATCTGCACCG      4200

GCTGCGTATT GTGCGGCTGC AATTGTTTTA CCTTTAGCCG CATCACCAAA TGAACCAGCG      4260

TAGTCAACTT GGACTTTGAT AGATGGGTCT ACTGACGCAA CACCAGCCTT GAATCCTGCT      4320

TCAAAACGAG AGATAACTTC AGATTCGATA CCACCTACAA AACCAACTTG TTTTGTCTTA      4380

GTTGTTTTTG CTGCAGCCAC ACCTGCAAGg TAACCTGACT CATTATCAGC GAAAGTTACG      4440

CTCGCAACAT TCTTTTGGTC TTTAATCACA TCATCAATCA AGACATAGTT CAAGTCAGTG      4500

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TCCCAAGCTG ATTGGTTGAA TGATTTGTCA TCAACACCAC CAGTATCAGT GACGATTGCT      4740

GCTTTTGTCT TCACATCAGA AGATGAAGCT GCGTTACGAG AAGAGCGGTT ACCACATGCA      4800

GCAAGTCCAA CTGCTGCCAC TGCAACTAGG CCAAGACCTA GCCATTGTTT CTTGTTCATT      4860

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CTTGTTCAAA AAATTCAGCC ATCACTTGGC GACAAGCACC ACATGGCGAG ATCGGTTTTT      5100

CAGTTTGACC ATAGACAATC AATTCTGAAA ATTCTCTTTG GCCTTCAGAT ATAGCCTTAA      5160
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565

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AAATAGCTGT TCTCTCACCG CAATTGGTCA AAGGATAGCT AGCATTTTCA ATATTCACTC     5220

CCGTGTAAAC ACTTCCGTCT TTAGCTACTA AAACTGCTCC GATAGGAAAG TGAGAATAGG     5280

GGACATAGGC ATGTTTGCTG GTTTCAATTG CCAGTTCAAT CAACTCAGTA GTCGCCATCT     5340

GCCAATTCTC CTTTTAAAAT AGCTACCCCA GCTGACGTTC CGATACGGGT CGCACCTGCT     5400

TCGACAAAGG CAAGAGCATC TGCATAAGAA CGAGCTCCAC CGGCGGCCTT GACACCCATA     5460

TCAGATCCAA CTGTTTCACG CATTAATGTA ACATCTGCTA TCGTAGCACC ACCAGTTGAA     5520

AAGCCAGTAG ATGTTTTGAC AAAGTCAGCC CCAGCTTTTT GGGCCAATTG GCAAACAACA     5580

ACTTTTTCTT GGTCTGTCAG AAGGCAAGCT TCAATAATGA CTTTCACTAA CTTATCACCA     5640

CTTGCTTCCA CTACTGCGCG AATATCTGAC TCAACCAAGG CTAAATTACC TGATTTGAGA     5700

GCTCCAACAT TGATCACCAT ATCAATCTCA TCTGCACCAT TTTGGATAGC TTCTTTTGTC     5760

TCAAATGCTT TCACGGCTGA AGTTGTTGCT CCCAAAGGGA AACCTACTAC TGTGCAAACC     5820

TTAACATCTG TGCCTTCAAG TCCTTTTTTA GCATGTTCAA CCCAGGTCGG ATTAACGCAA     5880

ACACTGGCAA AGTCATACTC TCTAGCCTCA GACAACAAAC TATCAATTTG TTTTTTCTTT     5940

GCATCTTGTT TTAAAAGCGT ATGATCTATA TATTTATTTA ATTTCATTTC GGTTTTCCCT     6000

CCATTTAGGA GATGATTTCT ACAATTTCAC GGATTTTTTT CACTTCATCA CTTATTTTAA     6060

CACATTTTTG GAAATCTGTA ACTAGTTGAG GTGGAATTTT TTCATTTGTG TATACTTTTG     6120

CAACAATTTC ACCCTTTTGA ACGGAGTCTC CAATCTTCTT TTCAAAAACA ATTCCTGTTT     6180

CATAGTCCAA GGCATCAGAC TTAACTGCAC GACCAGCACC CAGCCTCATG GCATAAAGAC     6240

CAAAGTCCAT AGCTGGAAGA GCTGAAATGA CACCCGTTTC CTGAGCAGGG ATTTCCACCA     6300

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TATCCTGACG TCCTTGACCT TGCAAAATCT CCAATGCTTC AAGGATTTCC AGACGATTTC     6540

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CAACCTTACC AAGATCTACC ATAGTTTGAG CCAACTCACG CGCCTCATCA ACCGTCTTCA     6660

TGAAGGCACC CTCACCGACA GTCACGTCTA GCAAAATAGC ATCCGCCCCT GCCGCAATTT     6720

TCTTGCTCAT CACCGAACTC GCAATCAAAG GAATCGTGTC GACAGTTGCG GTCACATCAC     6780

GAAGGGCATA GAGAAGCTTA TCTGCTTTGA CCAGCTGGTC TGATTGCCCA ATGACAGATA     6840

CTCCAATATC CTGAACCTGA CGAATAAAAT CCTCTTGACT ACGTTCTACT TGATAGCCCT     6900
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566

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TAATGGACTC CAATTTATCA ATTGTTCCGC CTGTATGGCC AAGACCACGA CCACTCATTT   · 6960

TTGCTACAGG CACACCGAAG CTAGCAACAA GAGGAGCTAA AATCAAGGTT ACCTTATCGC     7020

CGACACCACC AGTAGAATGC TTGTCAACTT TCACACCATC AATGGCTGAC AGGTCAAACT     7080

CTTGCCCAGT CTTAACCATA TTCATCGTTA AATCAGAGAT TTCTCGAGTC GTCATTCCTT     7140

TAAAATAAAC AGCCATAGCA AAGGCAGACA TCTGATAATC AGGAACAGTT CCTGATACAT     7200

AGCCTTCTAT CAGCCATTCA ATTTCACTTG AAGTCAGTTC TTGACCGTCT CGTTTTTTTT     7260

GGATTAAATC AACTGCTCTC ATTCTTTCAC ACTTCTAAGG ATATAGTATC CCTTGTCTTT     7320

TTTAAGGATT TCACAATTGC CAAACACATC TTCCATCTTA GACTTGGCAC TTGGAGCTCC     7380

TTGTTTTTTC TGGATGACGA TGGTCAAATC TCCACCAATT TCCAAGAAAT CTTTACTTTT     7440

CTCGATGATT TCATGAACGA CTTGCTTGCC CGCACGGATA GGAGGATTGG AAATGACATG     7500

GTCAAATCGC CCTTGAACTC TTGCATAAAT ATTAGATTGA AATATCGTCG CTTTTGCATT     7560

ATTTTTTTCA GCATTTCTCT GAGCTAAATC CAGGGCACGA GTGTTAATAT CAACCATGGT     7620

CGCCTGAACT CCGTAAACCT TGACCAAGGA CAAACCTAAT GGACCATAAC CACAGCCTAC     7680

ATCTAGGACT GTCTCTCCTT GGTTGACATC CAGACACTTG AGCAAGAGTT GACTTCCAAA     7740

GTCAACCATT TTCTTGCTAA AAACACCCGC ATCTGTCAAA AAAGTCATTT TTTCTCCCAA     7800

CAAGTCCACT CTCAACTCAT GAATGTCGTG AGCAGCGTCA GGATTTTCTG CATAGTACAT     7860

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TAAGCTTATA AATCAGTAGA ATCTATCTCC TATTTCATCA ATAAATTGAT CACTTATACT     8580

ATATACCATT GACTTACCAC ATTCAAGAAA CCGCTTTATT TTTTTAGCTT TTTATGGTAT     8640

GATAGACAAA ATATCTAGGG GAAAACAAAT GACCAACGAA TTTTTACATT TTGAAAAAAT.    8700
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567

CAGCCGCCAG ACTTGGCAAT CTTTACATCG AAAGACAACA CCTCCTTTGA CAGAAGAAGA   8760

ATTGGAATCT ATCAAGAGTT TTAATGACCA AATCAGTCTC CAAGACGTTA CAGATATCTA   8820

TCTCCCCTTG GCTCATTTGA TTCAGATTTA CAAGCGAACT AAGGAAGATT TAGCCTTTTC   8880

AAAAGGAATT TTCCTCCA   8898

(2) INFORMATION FOR SEQ ID NO: 70:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 13188 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 70:

TATCTTAACG aGGATTGGGT TTATCGTCAG TCTTATTGCC CTAATTGTGG GAACAATCCC   60

TTAAATCATT TTGAAAATAA TCGGCCTGTA GCAGATTTTT ACTGTAATCA TTGTAGTGAG   120

GAGTTTGAAC TAAAGAGCAA AAAAGGAAAT TTTTCATCAA CAATCAATGA TGGTGCTTAT   180

GCAACGATGA TGAAGCGTGT GCAGGCAGAT AATAATCCTA ATTTCTTTTT TTTAACTTAC   240

ACAAAAAATT TTGAGGTAAA TAACTTTCTT GTCCTTCCGA AGCAATTTGT TACACCGAAA   300

TCGATTATTC AAAGAAAACC ACTTGCACCA ACTGCTAGAC GAGCAGGTTG GATTGGTTGT   360

AACATTGATT TATCACAAGT ACCTTCTAAA GGAAGGATAT TTCTTGTGCA AGATGGACAA   420

GTTAGAGATC CAGAAAAAGT TACAAAAGAA TTTAAGCAAG GTTTATTTTT AAGGAAGAGC   480

TCTCTGTCAT CAAGAGGTTG GACAATAGAA ATTCTAAATT GTATAGATAA GATAGAGGGT   540

TCAGAATTTA CCCTTGAAGA TATGTATCGT TTTGAAAGTG ACCTAAAAAA TATCTTTGTT   600

AAGAACAATC ATATCAAAGA AAAGATTAGG CAACAGCTTC AAATATTAAG AGACAAAGAA   660

ATAATAGAAT TTAAAGGTAG AGGAAAGTAT CGGAAATTAT GAAAACGAAA CAACTTGTTG   720

CATCAGAAGA GGTGTATGAT TTCTTAAAAG TCATCTGGCC TGATTATGAA ACTGAAAGCC   780

GTTACGATAA CCTAAGTTTA ATCGTCTGTA CCTTATCAGA TCCCGATTGT GTGAGATGGT   840

TATCTGAAAA TATGAAATTT GGTGACGAAA AACAACTAGC TTTGATGAAG GAAAAATATG   900

GGTGGGAAGT AGGAGATAAA TTGCCAGAGT GGCTACATAG CTCCTATCAT AGATTATTGT   960

TAATAGGTGA ATTATTGGAA AGCAATCTAA AACTGAAAAA GTATACAGTA GAAATTACAG   1020

AAACTTTATC ACGTTTAGTA AGTATAGAGG CTGAAAATCC AGATGAAGCC GAACGACTTG   1080

TAAGAGAAAA GTATAAGAGT TGTGAAATTG TTCTTGATGC AGATGATTTT CAGGACTATG   1140

568

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ACACTAGCAT ATATGAATAG GTAGATGTTT TTATTTTGTC AACAAAAAAG AGGCTCGCAC      1200

CTCTTTTTCT TATTTCTTTT TATGATTTAA TACGGCATTG AGGACAATAG CGAGTAGGCT      1260

GGCTACGACG ATTCCGTTTG AGAAGAACAT TTGGAAGGCT GTCGGCATGC TGACAAAGAG      1320

ATTACTGTTG TTGAGACCGA CACCTGCAGC GATTGAAACA GCTGCGATAA GGAAGTTGTG      1380

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AAACATTACC AGCATGGCAC CACCGAGGAC GGAGCTTGGA ATGATTTGGG CAAGGGCGCC      1500

AAACTTAGGA AGCAGTCCAA GGAGAACCAG GAAACCAGCT GCGTAGTAGA TTGGCAGGCG      1560

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GGTGTTAAAG ATTCCTCCGA GAAGTACGGC CAAACCTTCT GCGCGGTATC CGTTGCGAAG      1680

GCGCGTGCTG TCGATTGGAT CCTTTGTGAT ATCAGACAAG GCCAGATAAA CACCAGTTGA      1740

CTCAACCATA GACACCGTTG CGATGATACA CATCATGACA ATAGATGAGA TTTCAAAGGT      1800

TGGCATCCCA AAGTAGAGTG GAGTTGGGAC ATGGACAAGT GGAGCTACCG CAACAGGAGA      1860

GAAGTCCACC AAGCCCATAG TAGCAGCAAT GGCAGTTCCA ACAACCAGAC CAATCAAAAT      1920

AGAGATAGAC TTGATAAATC CTTTGGTAAA GATGTTGATC AAGAGGATAA TCAGAACAGT      1980

AATAGCTGCA AGCAAGAGAC TTTGACCAGT TGGCTCTGGA ACGTTATTTC CCATATTTCC      2040

AATAGCGACA GGGATCAAGG TTAAACCAAT CGTGGTAATA ACAGATCCTG TTACGATAGA      2100

TGGGAAGAGA TTGGCTACTT TTGAGAAGAT GCCTGAAACA AGAACCACGT AAATCCCAGA      2160

TGCGATAAGG GCACCAAACA TAGCGCCACT ACCATGGCTT TGCCCAATCA TAATCAAGGG      2220

AGCGACCGAC TGGAATGCAA CTCCAAGAAC GACTGGGAGT CCAATCCCAA AGTATTTGTT      2280

GAGTTGGAGT TGGAGGAAGG TTGCCACCCC ACACATGAAG ATATCTGTAG AAATCAGGTA      2340

GGTCAACTGC TCAGCTGAAT AGCCAAGGGC TGTCGCAATC ATGATGGGAA CCAGGATAGA      2400

TCCTGAGTAC ATGGCTAGTA AGTGCTGCAA GCCAAGAACG GCTGCTTGCG AGTGTTTTTC      2460

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AAACGAGCAA GTGATAGGAC AGGGTAGCCT GCTTTTTCAA GCAAATCACG ACCATCTTGG      2580

AAGGATTTCT CAATCACGAT ACCGATAGCT TGGACTGTGG CACCGGCCTG TTCGATGATT      2640

TGAATCAAGC CTTTAGCAGC TTGGCCATTA GCAAGGAAAT CGTCGATAAT CAAAACCTTG      2700

TCCTCTGGTG AGAGGAATTT TTCAGCGATA GAAACGGTGC TGGTCACCTG CTTGGTAAAG      2760

GAGTAGACTT GAGCAGTTAA GATGCCTTCG TTCATGGTGA TGTTCTTAGC TTTTTTGGCG      2820

AAAATCATGG GAACGTTTAA GGCTTCAGCT GTAAAAACGG CTGGGGCAAT ACCCGACGCT      2880

TCAATGGTTA CGACCTTGGT AATGCCAGTA GTAGCAAATT TTTCCGCAAA AACCTTACCA      2940
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569

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ATCTCTCGCA TCAAGCTAAA GTCAACTTGG TGGGTTAAAA AGGAATCTAC CTTGAGGATG    3000

TTATCACCCA AGATATGCCC ATCCTTGAGG ATGCGCTCTT CTAATAATTT CATAAGACCT    3060

CCTAAAGTCT AAAAGTTAAT TTACTTGTTG TTTAAATATT TCTATAGTGA TCCCTTTTGC    3120

TAATACTATA TATTTGATAA AACTATTACG AGCGAAGCGA GTCTTATCAA ATATTTCCCG    3180

TTGTAGTGGT ATCATAGACA ATAATCTTGT TATTGTCTAT GACGGGATTT TTGAGAGTAA    3240

AATAGTTCGG GGAACTATTT TAGCCTAAGC CTAGAAATGA AAGAGCTAGG GGCTCAAAAA    3300

TTAGGGATGA AATTCCCTGG ATTCCTGAAA TTATTCACAG GATAATTTCA CCTCCCGTCC    3360

GCACTAATTA AGGGAAATAT TAAAAAAAGA CCTACTTAAT CTCTAAGTAA GTCCCCTAAA    3420

TAGACATGGC AAAAACGGCC ATATCTCACT GCTGACTTAC TTATTGTTAG GTGTTCCGGC    3480

ACCTTGTAGA AACGTCGTGC CAATTCACGA CATAAACAAG TAAAACGATA TTCAATTTTA    3540

AATAGGCTTG AGCCAATGTT TTTATTTTAC ACTAAATAAC TTTAGAAATC AACTATTTTG    3600

TTAGTGTTTT GGTTAAAAA ACGAACAAAA AGAAGAGAGG GTGAACAAAA ACTCCATTGT    3660

AAGCTAACAG TTATACTAAA TGAAAATCAA AGAGCAAACT AGGAAGCTAT CCACAACCTC    3720

AAAACACTGT TTTGAGGTTG TGGATAGAAT TGACAGAGCC AGTATCATAT ACCTACGGTA    3780

AGGCGACGTT GACGTGGCTT GAAGAGATTT TCGAAGAGTA TTAGAAGATT TTTCCATCAT    3840

AAAAGGCATA CTATCAAGCT TTTAGACACC TGACAATATG CCTTTTTCTA ACTTTAAAGA    3900

CTTTTCCCAA TTTTTATTAT TCTACTCGCT AAATCTTAAA AAATAGCCAT CTGGATCCAA    3960

AACTGCAAAT TTATGAGGAT AGATATAGGG ATCACTGACA CGAAACTTTC TTTTGGTCAA    4020

GGGACGATAA ATAGGATAGT TTGCCTTCAT CACTCTTTAA TAGAGTTTTG AAACATCCTT    4080

TATGCCAAAG GAGAGATTGA CTCCACGACC AAAGGGATAG GTCAGTTCAG CTAGTTGATC    4140

CTTTGTTCCC TCCTCTAACA TTAGTTGACA CTCTTCAAGA GAAAGAGAAA GTTTTCTTCT    4200

GGACGTTGGT ATTCAATCCT AAAACCCAGT AAACCACAGT AGAAGGACCG GGACTGTTCG    4260

ATATTCGATA CAAGCAACTC GGGAATGACC GCATTGTAGT CCATATAGAA AATCCTTACA    4320

AGTCAATTTC CAAGACAATC GGTGTATGGT CTTGGCGAGC ACCTGAGTCA ATCATATCAG    4380

ATTTAGTGAC CTTGTCAGCG ATACGGTTAC TTGTGAGCCA GTAGTCGATT CTCCAGCCTG    4440

TATTGTTGAT TTTAGAAGTT TTGCTGCGTT GTGCCCACCA AGTGTAGCGT TCAGGAACAT    4500

CGCCATGAAC ATGGCGGAAG GTGTCTGTAA ATCCAGTTGC CAAAAGGTTG.GTAAATCCAG    4560

CACGTTCCTC GTCAGTAAAT CCAGGTGAAC GGCGGTTGCT AGCAGGATTT GCAAGGTCGA    4620

TTTCATTGTG GGCTACGTTG TAGTCACCGG TCGCAAGGAC TGGTTTTTCT TTGTCTAGTT    4680
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                                570
CAGCCAAATA CTCAGCATAT TTGGCATCCC AGACTTGGCG TTCTTCCAAG CGTTTGAGAC        4740

CGTCACCAGC GTTTGGAGTG TAAACTTGGG TTACGAAAAA TGCATCAAAT TCTAGAGTGA        4800

TGATACGACC TTCCAAGTCC ATGGTAGAAG GGGCACCGAT TTCTGGGAAG CTGATAGTAG        4860

GTGTAAGTTC TTTCTTATAA AGGAACATGG TTCCAGCATA GCCTTTACGG GCAGGCTCTT        4920

GGGAAGAGCG CCACGTGTTT TCGTAGCCTG GGAAGAGTTC TTCTAAAATT TCCACGTGTT        4980

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TCACTTCATT TCATCGAGGT TGTTTCCAAA GATTTGTGAG TAGACAAGTC AGAAGTCTAT        5580

GTTAATACTT CCACAAACAC AGATGGCGCA CTTATCAAGG TGGGAGATCG CTATTATCGT        5640

GCCCTAAATG GAAGTGAGCC AGACAAGTAC CTGTTAGAGA AAGTCGAATT GTATAAGACA        5700

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AACTGGTCTT GACTCTCAAA TAGCTCAACA ACAATGTTCA CTTTGTGAAA CGTTTGATTG        5820

ATGGTAAGCC AACTCTCCTT ATCAAAAATG GGAATATTGA CCCAGAAGCC TGTCGTTCAG        5880

TTGGTTTGTC TGCATCGGAT GTATCCCTCA AACTTCGTAG CCAAGGGATT TTCCAGATGA        5940

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CGATTGGTCG TAGCGAAGAG TGGTTGCTTG ATAACCTCAG TAAACAAGGG CATGACAATG        6120

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TGCCGTATGT AGGTTACTGA CTTCGTCAGT TCTATCTACA ACCTCAAAGC AGTGCTTTGA        6300

GCAGCCTGCG GCTAGTTTCC TAGTTTGCTC TTTGATTTTC ATTGAGTATT GGCCTCAGGT        6360

TTCCATTTGC AATCAGAAAG GGATTTTATG TCCATTATTC AAAAACTTTG GTGGTTTTTC        6420

AAGTTAGAAA AACGCCGTTA TCTAGTCGGA ATTGTGGCCC TGATCTTGGT TTCCGTCCTC        6480
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571

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AATCTCATTC CTCCTATGGT TATGGGGCGG GTCATTGATG CCATCACATC GGGGCAATTA      6540

ACCCAGCAGG ACCTCCTTCT TAGCCTATTT TACTTGCTAC TTGCAGCCTT TGGTATGTAC      6600

TATTTGCGCT ATGTGTGGCG TATGTATATC CTTGGGACCT CTTATTGCTT GGGACAGATC      6660

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CGGACGGGTG ATCTGATGGC ACACGCAACC AATGATATCA ATGCCTTGAC TCGTTTAGCA      6780

GGTGGCGGTG TCATGTCTGC GGTGGATGCC TCTATCACGG CTCTGGTGAC TTTGTTGACC      6840

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TCTTTCGGTT ATCAGGCAGA CGAGTTGAAG TCTTTTCAGG CAGTCAATGA ATTAACCTTC      7080

CAAAAGAACC TGCAAACCAT GAAATATGAT AGTCTCTTTG ACCCTATGGT TCTCTTGTTT      7140

GTTGGTTCGT CCTATGTTTT AACGCTTTTG GTTGGCTCCT TGATGGTTCA GGAAGGGCAG      7200

ATTACAGTTG GGAATCTAGT CACCTTTATC AGCTATTTGG ATATGCTGGT CTGGCCTCTT      7260

CTGGCCATCG GTTTCCTCTT TAATACTACT CAGCGAGGGA AGGTTTCTTA CCAGCGGATT      7320

GAAAATCTTT TGTCTCAGGA ATCTCCTGTA CAAGACCCTG AGTTTCCTCT GGATGGTATT      7380

GAAAATGGGC GTTTGGAGTA TGCCATTGAC AGCTTTGCTT TTGAAAATGA GGAAACACTG      7440

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GGCAATCCTA ACTTGCCCCT TTCAGCGGTC GAGGAAGCTA CTAAGCTAGC CCGGGTTTAC      7740

CAAGATATTG TAGACATGCC TCAAGGATTT GATACGCTGA TTGGTGAAAA AGGAGTCACT      7800

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GACAACCTCA AGGAGATGCG AAAGGACAAG ACAACCATTA TCACTGCCCA TCGCCTCAGT      7980

GCTGTTGTCC ATGCAGATTT TATTTTAGTT CTACAAAATG GTCAAATTAT CGAACGAGGC      8040

ACGCACGAAG ACTTGCTAGC TTTGGATGGC TGGTATGCCC AAACCTACCA GTCTCAGCAG      8100

TTGGAAATGA AAGGAGAAGA AGATGCAGAA TAAACAAGAA CAATGGACTG TATTGAAGCG      8160

CTTGATGTCT TATCTCAAGC CTTATGGACT CCTGACCTTT TTGGCACTCA GTTTTCTCCT      8220
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572

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AGCGACGACG GTCATTAAAA GTGTCATACC CCTCGTGGCT TCCCACTTTA TCGACCAGTA      8280

TCTCAGCAAT CTTAACCAAC TAGCCGTTAC CGTTTTGCTG GTCTACTATG GTCTCTACAT      8340

CCTACAAACT GTAGTTCAGT ATGTCGGCAA TCTTCTCTTT GCGCGCGTGT CTTACAGTAT      8400

TGTTAGGGAT ATTCGTCGGG ATGCCTTTGC CAATATGGAG AAACTGGGCA TGTCTTACTT      8460

TGACAAGACG CCAGCAGGTT CTATCGTTTC TCGTTTGACC AACGATACCG AGACGATTAG      8520

TGATATGTTT TCTGGGATTT TATCCAGCTT TATCTCAGCA GTTTTTATCT TTCTGACAAC      8580

CCTTTATACC ATGTTGGTGC TGGATTTTCG TTTGACGGCT TTAGTCTTGC TCTTTCTTCC      8640

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TTCTATCGGG ATAACGGTCG GGACCATGTA TGCCTTTATC CAGTACATCA ACCGCCTTTT ,    9000

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CCAGTCAGGG AGAGTTCTCT TGGATGATGT GGATATCAGG GATTTCAGTC AAGAAGAGCT      9360

GAGAAAAAAC ATCGGTTTGG TCTTGCAGGA ACCCTTCCTC TATCATGGAA CTATTAAGTC      9420

CAATATCGCC ATGTACCAAG AAACCAGTGA TGAGCAGGTT CAGGCTGCGG CAGCCTTTGT      9480

GGATGCAGAT TCCTTTATTC AAGAACTTCC TCAGGGGTAC GACTCCCCTG TTTCCGAGCG      9540

TGGTTCGAGC TTCTCTACTG GGCAACGCCA GCTTCTTGCC TTTGCTAGAA CAGTCGCCAG      9600

CCAGCCTAAA ATCCTGATTT TGGATGAAGC GACAGCCAAT ATTGACTCTG AAACAGAAAG      9660

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CCGCCTTTCT ACTATTCAAG ATGCCAACTG CATCTATGTC TTGGATAAGG GACGCATTAT      9780

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ATCTGCAATC TCAAAGCTGT ACTTTGATTT TCATTGAGTA CTAGAAGGAA ATCCTTCAAA      9960

TTACAGATTT CTTTCACCGC CTTTTCCATT TTGTGGTATA ATGAAAAATG TTGACAAATA      10020
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573

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AATCAAGCGA GGTTGAGTCT TACTACCAGC TTGTCTCTAA AAGGAAGGGT TCGCTGATTT    10140

TCAAGCGTTG CTTGGACTGG GTTTTGGCCT TGGTCTTACT GGTTCTGACC TCTCCCATCT    10200

TTCTCATCTT GAGCATTTGG ATCAAGTTGG ATAGCAAAGG GCCAGTGATT TACAAGCAAG    10260

AGCGTGTGAC CCAGTACAAC CGTCGGTTCA AGATTTGGAA GTTTCGTACC ATGGTGACGG    10320

ATGCGGATAA AAAAGGAAGT CTGGTGACTT CTGCTAACGA TAGCCGCATT ACCAAGGTTG    10380

GAAATTTCAT CCGACGTGTC CGTTTGGACG AACTGCCTCA GTTGGTCAAT GTCCTTAAAG    10440

GTGAGATGTC CTTTGTCGGT ACACGACCTG AAGTGCCACG TTATACAGAG CAGTATAGCC    10500

CTGAAATGAT GGCAACCTTG CTCTTGCAAG CAGGGATTAC CTCTCCAGCC AGCATCAACT    10560

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TTAGTTTCTT TGGGGACATC AAAATCATGT TTCAAACCGT GTTTGAGGTA CTAAAATAAA    10740

GTAGTCATAA GAAAATGAGT ACAGATAAAA GGAGCAAATC AATGCCAAAT TACAATATTC    10800

CATTTTCACC GCCTGATATC ACAGAAGCAG AAATTACTGA AGTAGTGGAT ACCCTGCGTT    10860

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GGGAATACGA TATCGTTACA CCAGCCTATA AGTGCAACAT GACCGATATC ATGGCTTCAC    11580

TTGGTTTGGT ACAATTGGAC CGCTATCCAA GTTTGTTGCA ACGCCGTAAG GACATTGTGG    11640

ACCGCTATGA TAGTGGTTTT GCAGGTTCTC GCATCCATCC TTTGGCACAC AAGACTGAAA    11700

CTGTCGAATC TTCACGCCAC CTCTACATCA CCCGTGTAGA AGGAGCAAGC CTAGAAGAAC    11760
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574

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GCAACCTCAT CATCCAAGAA TTGGCTAAAG CAGGAATTGC AAGTAATGTT CACTACAAAC    11820

CGCTTCCTCT CTTGACAGCC TATAAGAATC TTGGATTTGA TATGACGAAC TATCCTAAGG    11880

CCTATGCCTT CTTTGAGAAT GAAATTACCC TCCCTCTTCA TACTAAATTA AGCGATGAAG    11940

AAGTAGACTA TATCATTGAG ACTTTCAAAA CAGTTTCTGA AAAAGTGCTA ACTTTATCAA    12000

AAAAATGACA AACTACAGTC AAGCGAAAGT GATCCTGCCC CTAAAAAGTC TAATTGAGTG    12060

TAAAAACTGT TGTTTTCAAT TGATAATAGT TTACACCTGT AGTTGAGGCC CCTTTCTCCT    12120

CAGAGAGAGA ATTTTTATAG GATTTTCCTT TCTTGTGGGA GTCCCGTGGT TTGAAATAAG    12180

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GCATCTATTT TTATCGAGGT TAAATCTAGC TTTTATAGAA GGTCTATTTA AGAAATATAT    12600

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CTAACAATGT TTTAGAAGTA GAGGTGTACT ATTTTAGTTT CAGTCTACTA TAGAACTGAC    12960

CAAGTCAGTA ACCTAGACTT AGGGCAAGGC GGCACTGACC TAGTTTGAAG AGATTTCCGA    13020

AGAGTATAAA TTTTAATATT TTCTTGTGTT ATTCCTTGAC AATTCAATTT GGAAAATATA    13080

TGATAAAGAT AATGACAGCG GTGTCATTCT ATCTATTTTA AGAAAAGTAA TAATCAATTG    13140

TTAAAAATAG TAAAAAAATT GGAGGTTCTG ATGAAATATT TTGTTCCG              13188
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(2) INFORMATION FOR SEQ ID NO: 71:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 32768 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 71:

575

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AACGAGTGCA TCAGTCTCAG CAAGCACCAG TGCGTCGGCC TCAGCAAGCA CCAGCGCGTC        60

TGAATCCGCA TCAACCAGTG CCTCAGCTTC AGCAAGTACC TCAGCATCTG AATCAGCATC       120

AACAAGTGCA TCGGCTTCAG CAAGCACAAG TGCTTCAGCC TCAGCAAGTA TCTCAGCGTC       180

TGAATCGGCA TCAACGAGTG CGTCCGCTTC AGCAAGTACT AGCGCCTCAG CATCAGCGTC       240

AACAAGTGCT TCGGCTTCAG CGTCAACGAG TGCGTCTGAG TCAGCATCAA CGAGTACGTC       300

AGCCTCAGCA AGCACATCAG CTTCTGAATC TGCATCAACC AGTGCGTCAG CCTCAGCATC       360

GACAAGCGCC TCAGCTTCAG CAAGTACCAG TGCGTCAGCC TCAGCAAGTA CCAGTGCTTC       420

AGCCTCAGCG TCGACAAGTG CGTCGGCCTC AACCAGTGCA TCTGAATCGG CATCAACCAG       480

TGCGTCAGCC TCAGCAAGTA CTAGCGCCTC AGCCTCAGCA TCAACGAGTG CGTCCGCTTC       540

AGCAAGTACT AGTGCATCAG CATCAGCATC AACGAGTGCA TCGGCTTCAG CAAGTACCAG       600

CGCCTCAGCT TCAGCAAGCA CCAGTGCGTC AGCCTCAGCA AGTACCAGCG CCTCAGCCTC       660

AGCAAGCACC AGTGCCTCAG CTTCAGCAAG TACCAGTGCG TCAGCCTCAG CGTCGACAAG       720

TGCGTCGGCT TCAGCAAGTA CCTCAGCGTC TGAATCAGCA TCAACGAGTG CATCAGCTTC       780

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TGCGTCCGCT TCAGCAAGTA CTAGCGCCTC AGCATCAGCG TCAACAAGTG CTTCGGCTTC       900

AGCGTCAACG AGTGCGTCTG AGTCAGCATC AACGAGTACG TCAGCCTCAG CAAGCACATC       960

AGCTTCTGAA TCTGCATCAA CCAGTGCGTC AGCCTCAGCA TCGACAAGCG CCTCAGCTTC      1020

AGCAAGTACC AGTGCGTCAG CCTCAGCAAG TACCAGTGCT TCAGCCTCAG CGTCGACAAG      1080

TGCGTCGGCC TCAACCAGTG CATCTGAATC GGCATCAACC AGTGCGTCAg CCTCAGCAAG      1140

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CACCAGTGCG TCAGnCTCAG CAAGTACCAG CGCCTCAGCC TCAGCAAGCA CCAGTGCCTC      1320

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TACCTCAGCG TCTGAATCAG CATCAACGAG TGCATCAGCT TCAGCATCAA CAAGTGCTTC      1440

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AACCAGTGCC TCTGAATCAG CATCAACAAG TGCCTCGGCT TCAGCAAGCA CCAGTGCGTC      1560

GGCTTCAGCA AGTACTAGTG CATCGGCTTC AGCATCGACA AGTGCGTCTG AATCGGCATC      1620

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TGAATCTGCA TCAACCAGTG CGTCCGCTTC AGCGTCAACC AGTGCGTCGG CTTCAGCGTC      1740
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576

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GACAAGTGCT TCGGCTTCAG CATCAACGAG TGCGTCGGCC TCAGCAAGCG CAAGTACCTC        1800

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TACGTCAGCC TCAGCAAGCA CATCAGCTTC TGAATCTGCA TCAACCAGTG CGTCAGCCTC        1980

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TACTAGTGCA TCAGCTTCAG CATCAACGAG TGCATCGGCT TCAGCATCAA CCAGTGCCTC        2160

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AACAAGTGCT TCAGCCTCAG CATCGACAAG TGCCTCGGCT TCAGCAAGCA CATCAGCATC        2280

TGAATCAGCG TCAACCAGTG CTTCGGCTTC AGCAAGTACC AGTGCTTCAG CTTCAGCATC        2340

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TGCGTCGGCT TCAGCAAGTA CTAGCGCCTC AGCCTCAGCC TCAACCAGTG CGTCAGCCTC        3240

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TGCATCGGCT TCAGCATCAA CGAGTGCGTC CGCTTCAGCA AGTACTAGCG CCTCAGCCTC        3480

AGCGTCAACA AGTGCATCGG CTTCAGCGTC AACGAGTGCG TCTGAGTCAG CATCAACGAG        3540
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577

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TGCGTCAGCC TCAGCAAGCA CATCAGCTTC TGAATCTGCA TCAACCAGTG CGTCAGCCTC    3600

AGCATCGACA AGCGCCTCAG CTTCAGCAAG TACCAGTGCG TCAGCCTCAG CGTCGACAAG    3660

TGCGTCGGCT TCAGCAAGTA CCAGTGCGTC AGCCTCAGCA AGTACCAGTG CGTCAGCCTC    3720

AGCGTCGACA AGTGCGTCGG CCTCAACCAG TGCATCTGAA TCGGCATCAA CCAGTGCGTC    3780

AGCCTCAGCA AGTACTAGTG CATCAGCTTC AGCATCAACG AGTGCATCGG CTTCAGCATC    3840

AACCAGTGCA TCAGAGTCAG CAAGTACCAG TGCGTCAGCT TCCGCATCAA CAAGTGCCTC    3900

GGCTTCAGCA AGTACTAGCG CCTCAGCCTC AGCGTCAACA AGTGCTTCAG CTTCCGCGTC    3960

AACCAGCGCC TCGGCCTCAG CAAGTATCTC AGCGTCTGAA TCGGCATCAA CAAGTGCCTC    4020

GGCTTCAGCA TCAACGAGTG CATCAGTCTC AGCAAGCACC AGTGCGTCGG CCTCAGCAAG    4080

CACCAGCGCG TCTGAATCCG CATCAACCAG TGCCTCAGCT TCAGCAAGTA CCTCAGCATC    4140

TGAATCAGCA TCAACAAGTG CCTCGGCTTC AGCAAGCACA AGTGCTTCAG CCTCAGCAAG    4200

TATCTCAGCG TCTGAATCGG CATCAACGAG TGCGTCCGCT TCAGCAAGTA CTAGCGCCTC    4260

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TGCGTCAGCT TCAGCATCAA CCAGTGCTTC GGCTTCGGCA TCAACAAGTG CCTCAGCATC    5220

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578

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579

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580

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581

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582

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583

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585

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TTGACTATCA TTTCAGTCTT GCTAGCTGTT TTGGCAGTCG TGACAGGCTT TTTCGGAATG      32160

AATGTTCCCT TACCTTTAAC AGATGAGCCC CATGCTTGGC TCTATATCAG TTTGGCTAGT      32220

GCAGGTTTGT GGATTGTTTT ATCCTTGTTA CTAAGGAAAA TTGCGAAAAA AAGTTAAGAA      32280

AAGGAGCCAG AATGGCGATT GAAAATTATA TACCAGATTT TGCTGTGGAA GCAGTCTATG      32340

ATCTGACAGT CCCAAGCCTG CAGGCGCAGG GAATAAAGGC TGTTTTGGTC GATTTGGATA      32400

ATACCCTCAT TGCTTGGAAC AACCCTGATG GAACGCCAGA GATGAAGCAA TGGCTACATG      32460

ACCTTCGGGA CGCGGGTATT GGCATTATCG TAGTGTCAAA TAACACCAAA AAACGCGTTC      32520

AACGAGCAGT TGAGAAATTT GGGATTGATT ACGTTTACTG GGCCTTGAAG CCCTTCACAT      32580

TTGGTATTGA CCGTGCTATG AAGGAATTCC ACTATGACAA AAAGGAAGTG GTCATGGTTG      32640

GTGACCAACT CATGACAGAT ATACGAGCAG CCCACCGTGC AGGGATTCGG TCAATTTTAG      32700

TCAAACCCTT GGTCCAACAT GACTCAATCA AAACGCAGAT TAACCGAACT CGTGAGCGTC      32760

GTGTTATG                                                                 32768
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(2) INFORMATION FOR SEQ ID NO: 72:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 14872 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 72:

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CATTTGATGG GATATTAAGA AAGGAGATTT TCATGACACT TTTAGATGTA AAACACGTTC      120

AAAAAATTTA TAAAACACGT TTTCAGGGCA ACCAAGTAGA AGCCCTCAAG GATATTCACT      180

TTACCGTAGA AAAGGGTGAC TACGTTGCCA TCATGGGTGA GTCTGGTTCT GGTAAATCAA      240

CTCTTCTCAA TATTCTAGCT ATGTTGGATA AACCAAGTCG TGGTCAGGTT TACTTGAATG      300

GAACTGACAC CGCAACTATT AAAAATTCAC AGGCTTCTAG TTTCCGGCGT GAAAAGCTAG      360

GATTTGTCTT CCAAGACTTT AACTTGCTAG ATACTCTGTC TGTTAAGGAC AATATCTTGC      420
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594

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AGAAACAGCG TGTAGCAGTA GCCCGCGCCA TCATCACAGA ACCTGAAATT CTCCTTGCGG        600

ACGAGCCAAC AGGAGCCCTT GATTCCAAGT CATCTGCAGC CTTACTTGAT GTCTTTAATG        660

AAATCAATGA GCGTGGGCAA ACCATCCTCA TGGTAACCCA CTCAACAGCA GCTGCTAGCA        720

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CGCAAACTCT ACTATCCCTT TGCACTGGCT GTTCTCTTGG CAGTCACCAT CACCTATCTC        960

TTTTACTCCC TAACCTTCAA TCCAAAGATT GCGGAAATCC GTGGAGGAAC CACCATTCAA       1020

GCAACACTTG GATTTGGTAT GTTTGTCGTT ACCCTTGCGT CAcCATTATC GTCCTCTATG       1080

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CAGTACTTGT TGTCTTTGGA TTGATTTTCC TAGGCCTCAT GTTCCTGAAT GCTCTTCGAA       1380

TCGCCCGTAT GAATGCCCTC CAGCTCTCGC GTGAGAAAGC AAGCGGAGAG AAAAGAGGTC       1440

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TCTTGAGCCA GTTTGCAAGT GACAAAGGTT ATAGTGTCAA AGAGAAAGAA GTACTTCGTT       1920

ACAGTAACTT TGGTATTGCA AATCAAGAAG GAACCAAGTT AACTATTTTT GAAAAAGGAC       1980

AAAACCGTGT CCAACCCACA ACAGTTTTCA TGGTATTTGA CCAAAAAGAT TATGAAAATA       2040

TGACTGGTCA AAAACTGTCT CTATCAGGAA ATGAGGTCGG TCTCTTTGCC AAAAATGACG       2100

GACTGAAAGG ACAGAAAGCT CTAACTCTAA ATGATCATCA ATTTTCTGTC AAAGAAGAAT       2160

TTAATAAAGA TTTCATTGTG AACCATGTTC CAAATAAGTT TAATATCTTG ACTACTGATT       2220
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595

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TCTATAATCA GTTTTACGGT GGTATGAATG TAAATGTCAG TGAAGAAGAA CAACTCAAGG      2340

TCGCTGAGGA GTATGAAAAC TACCTCAATC AATTTAATGC TCAATTAGAC ACAGAAGGTA      2400

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GCATAATAAA TGTGCTCCTC AGAAAATACA TTAGACAAGC GATTGAATTC CGTTCCATTA      3840

TCTGCCGTGA TGGAAAGAAT CTTGTGTTGT TTTAAGATGA GTTTTAGAGC CTGATTGACC      3900

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ATTCCCATCT ATATCGAGAT GAGTGTAGAT CCTAAGATTG GTATCGCTTT AGGTCTTGAA   5700

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TTTTAGCGAC ATCAATGCCC ACATAAAGCA TGGGAGTATC TCCAGATATA GTATTTCAAG    7440

TCTACTGGGT TATCCACGAA CTTTTTGCCT TGTTACCTTA GACGAGATAA AACGTCTATG    7500
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598

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GATTTACCAG CATGGGAGTC CCTTCTTTGA CGAGGATGAG TCGGCCTGCC GAAGCATGCA          8280

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TAGCTACTTA TGACCTAGAC AAGGGAGCAA GTGAACGCCT AAACTGGGGC TTGTTTCGAG    12840
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601

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GCAAATAGCA GTAACTTCTG TCTATTTGCT TTTCTTTTTT ATAGAATATA TTTCTCAATA      13080

GCACGCGCAA CGCCGTCTTC TTCGTTGCTT GAGGTAACGG CATCCGCAAG AGATTTGATA      13140

TAATCGCTGG CATTTCCCAT TGCAATCCCA AGCCCTGCAA ACTGGAGCAT TTCGATATCG      13200

TTATTAGCAT CGCCCATGGC CATAATCTCT GAGGAATCAA TCTTCAAAAT CTCAGCTAGT      13260

CGTGAAAGAG CAGTAGCCTT TGTCGTTCCA AGCGGCATTG CTTCATAAAT GACAGGCTGC      13320

GAACGAACTC CACTGAATCG TTGGCAAAGC TCTTCAGCAA AACGCTGCTC AAAATCGTCT      13380

GTTTGTTCTT TTGTTCCTAA ACACATACCT TGGAACATCC GGAACTTTCC ACTAGTCGCT      13440

TCTTCAAGAG AAATTTCAGT CAGGTCTGAA AATACTAGTT TAGCATCATT TTCAATAACT      13500

TGATTGGGCT TGTCACCGAG AACAAAATAA TGTGACTCGT CAAAAAGTGT CAACTGAACA      13560

TCACTCTTTT CAGCAAGGTC ATAGAGGTAT TCGATGTCAG CTGGACTCAG TTCTTTCCAG      13620

TCAACTAGAC TCCAATCACT GGTCTGGTGA GTTGAACAAC CGTTGTTAAC AATAATATAT      13680

TCGTTCTGGA GGTCAAGCTC CAGTTTTTTG TAGTAGGGGA GGACACCGAA AAGGGGGCGA      13740

CCCGTACAGA GAACCAGTTT GACACCTTTT TCAATGGCTT TGTGAATAGC AGTAATGTGT      13800

GCTTGTGGGA TTTCCTTGGC TTCATTGAGG AGGGTGCCGT CCATATCCAA GGCTAGTAGT      13860

TTAATCATAG GTCTTCCTCT TTATCTTTGC TATTATTATA GCATATTTTG GAGAAGAAAT      13920

TGATAGAAAG CTTGAGACTA ATTGATTTTA TAGTTTAAGA TGTTTTGATG ACAATTCATG      13980

ATTTGAAGAG GATATTTCGC AAAGATATGC TATACTATGT TTGTCAATGT TGCAACTAGA      14040

CAAATTAAAA AACCAACTTA ATATAATAGT TTTTTTGTAA GTAGGTATGA GTAGCAGATT      14100

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TCCTAATGGT AGGTACGATT GGGAAATAGA ACCAGTATTA ACTCTGCTGG TTCATGGATT      14280

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AAGTGCTGCG AGATTTTAAG TAAAATTTAT TAGGAATATG AAGAAACAAG GGGAGAAAAC      14400

AGAGGATTTA ATATGAAAAA ACGAGCTATT CAAATTTTAC TAGCATTGTC CTTAATTTTT      14460

TACAAATCAA CTTGGTTTTG GAGGCTTTTC AATTATCTCG CAAAGCCCTA TCTACCAGCA      14520

AGTCGTGAAT TTTTTCAGAT TCTGCTTTTG ATGGAGAGCG GAGTTCTTTT CTTAGCGGTC      14580
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602

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ATCTATCTAC TGGTTTTTGC AGGAAAGAAA ATTTTTCATT TCAAGTGGCA GCTGAGGTAC        14640

TTCATCTACC TTTTACTGGG CTACATCATT TCATATATGT CTGACTTCCT CTTTTCGTAT        14700

TTCATATCCC TGTCTTCAAA TCAGATTTCT TTGAATGAAA CGGTAGAAAT GATGGGGAGA        14760

CAGGAGTTCC CTTATGTCTT GCTCATCGTT TGCTTCATCG CCCCTATTGC TGAGGAATTG        14820

ATTTATCGAG GtGTGCTTAT GACAACCTGT TGCAAAAACT CACCTTGGTA CG               14872
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(2) INFORMATION FOR SEQ ID NO: 73:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 10223 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 73:

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CGTGCTATCG GTCTCAAAAC CAATCTGGTC GCTATGGTCA AATCCAGTTG GAAAATCCAT          60

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TATCGGCATT TTCTAATACT CTTCGAAAAT CTCTTCAAAC CACGTCAACG TCGCCTTGCC         180

GTAGGTATAT GTTACTGACT TCGTCAGTTC TATCTGCAAC CTCAAAACGG TGTTTGAGCT         240

GACTTCGTCA GTTCTATCTG CAACCTCAAA ACGGTGTTTT GAGCTGACTT CGTCAGTCGT         300

ATCTACAACC TCAAAACAGT GTTTTGAGCT GACTTCGTCA GTTCTATCTG CAACCTCAAA         360

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TAACACAAAA GGTAGCCCAT CAGCTACCTT TTTCTTATGC TTCCTCAATC AAGCGAGTAT         480

GTTCTCTCTT GATACAGCGA TTCATCACGA TATCATCACA TCCACCATCA CGCAAAATCT         540

CTTTCGCTTC TAAACTTTCA AGTCCTAGCT GTGCCCAAAA AATCTTGGCA TCAGCTTTGA         600

GAAAATCACG CGCCACATCG GGCAGAAATT CACTGCGACG ATAAACATTG ACAATATCTA         660

CAGGAAAAGG AATTTCAGCG AGGCTAGCAT AAGCCTTTTC ACCCAAGATT TCGCCACCTG         720

CCGCCTTGGG ATTGACTGGG ATGATTTTAT AGCCCCGAGC CTGCATTTCC TTTGTTACTC         780

GATTGCTGGT TGTTTCTTCA CGGTCAGACA AACCCACCAC AGCAAGGGTT TTACTCGTTG         840

CGAGATACTG ACGAATCACG CCATCACTTG GATTGATAAA TTCTTGACTC ATAGAAATCC         900

TCCTTTTTCA TCAGTATAGC ACATTTTGAA AAGGTTTGCA GAATTATACT ACAAAAAAGG         960

AGGACTAGCC CCCTTTTTAT TTAGCCTCGT ACCAGGTTGC CCCTTCATTC TCATCTGCGA        1020

TAAGAGGAAC ACTGAGTTGA ATGGCTTCTT CCATGGTTTG TTTCACCAAT TTTTTCATCT        1080

CTACCAATTC AGATTTAGGC ACTTCAAGGA CGATTTCATC GTGCACTTGT AACAGCATCT        1140
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603

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TAGTCTGATA ACCACCTGCA ACCAAGGCTT TATCCAGCTG AATCATGGCA ATCTTGAGAA      1200

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CATAGCCCTT ATCACGCGCC TCCCGCACCA CTTCATCCAT GTAGTTTTTA ATACCTGGAA      1380

AACGTTCAAA GTAGGTATCA ATGTAGGCTT TGGCTTCCTT ACGACTAATT CCCAAATTAT      1440

TAGACAAGCC AAAGTCTGAA ATCCCATAAA CCACTCCAAA GTTAACTGCC TTGGCATTGC      1500

GACGGTCGTT TGCAGTCACA TCATCAGGAC GCTCAATGCC AAAGACCCGC ATGGCTGTCG      1560

AAGTATGGAT ATCTGCCCCC TCTTGGAAGG CCTTAATCAA GTGCTCATCC TTAGAAATAT      1620

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ACTCTGGCAC AAAAGCCTTC CGAATCAAGC GCCCCTGTTC CAATCGGGCA GGAATATTTT      1740

GCAAGTTTGG ATCCACACTA GACAAACGCC CGGTCTGGGT CAAATCCTGC ACATAGCGAG      1800

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TCTTAGCAAT TTGACGGTAA TCCAGGATTT TCTTAACAAT CGGAGCAATA GGAGCGAGAC      1920

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CCTCACCAGC CAGCTCGTAA ATCTCTTGAG TCAGTTTTTC AATGACAAGC TCATTTTCAG      2100

CCTGCATCTC AAGCAAGGTC TCTTTCTTGA CCATAATCCC AGCAATTTCC ATCTTGGCAA      2160

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GTTTTTCAAG TAAAATAGGC TCTGTTTCTA CCAAAACAGC AAGTTTACAA GCTAAGTGTT      2280

CCAAGAATTT CTCACGTTCA GGAATGGCCT TTTTAACACC CTTACCGTAG AAAGTTTCAT      2340

CATCAACCAA GTAAGTCTGA CCATAAAGAC TAGCGATGGT CGCAATTTCA TTGTCCTCCA      2400

CAGTCGAAAG GAGGTATTTA GCCAAACGGA TGTCAAAAGC AGGCGCCTGC AAATCCACAC      2460

CAAAACGTTG CAAAAGAACT TTAACCTTCT TAAAGTCATA AACTCTCAGA GATGTTTTTT    , 2520

CTAAGAAATC CTTGAAAATC GGGTCTTGCA ACAGCTCAAG CTTGTCTGTG GCATAGAGCT      2580

TATCCCCACA AGACCAGACA AATCCAACCA AATTATCCGT ATGGTAATTC TCACCAAAAA      2640

GCTCAAAGTG GAAGATAGAC TCTTCACTCA GCATATCTTG ACTGATTTGG TCAACAATAG      2700

TAAAATCCAA ACTCTCGACAC ACATCAGCTG ACGACACATT TAAAGCCTGC TTTAGCTGTT      2760

TGAAGCCCAT CTCATCGTAG AATTTCCCAA GATTTTCAAC ATCTGGACCA CTATAGACCA      2820

AGTCCTCTAA ACCAATCGCA ATCGGTGCCT TGGTATCAAT GGTCGCTAGT GTTTTAGACA      2880
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604

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AAAAGGCCTG TTCCTTGTCA TTGATGAGAT TTTCCTTCAT CTTAGAAGTC TTCATTCCAT    2940

CAATATTTTC ATAAATCCCC TCAAGCGAAC CATGCTCCAG CAAGAGCTTA ATACCCGTCT    3000

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CCTCAAACTC AGCCACACCT TTCTTGGAAA TTTCAACCAC CGTATGCTCA TCCGTCAGCT    3180

GAATCAAATC CTTGTCCCCA CTGACAATAG TAATATCAAA ACCATCCTGC TCTGCTAGCT    3240

TATCCAGCGT CCCAATGATG TCATCCGCCT CATACTGAGC CAGATCATAG TGACGAATCC    3300

CCATATGATC CAGCAACTCA CGAATGAAAG GAAATTGCTC ACGAAACTCA TCAGGAGTCT    3360

TGGCCCGACC ACCCTTATAG TCCGCATACA TCTCTGTCCG GAAGGTCGTC TTTCCCGCAT    3420

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GAAAACCATA AATCGCATTG GTATGCAAAC CAGCCACATT CTTAAAACGG TCCAACTGCT    3540

GATACAGCGC AAAAAACGCC CGAAAAGCTA CAGAAGACCC ATCAATCAAT AATAATTTTT    3600

TCTTATCCAT ACACCCATTA TAAAGGAAAG AATCAAAAAA TACCATTGGG AAGAGCTAGA    3660

GCAAGTATTT TTCAAACTTT TTCCGAATAA ATAGATAGAG CCAGAGAATT TAGTAAACCT    3720

AGATTTAAAA ATGTGCTATA ATATAGTATA TTGAATCTAT AATAGTACAC CTTGACTGCT    3780

AAAATATTTC TATAAATTAA TTTGACTTTC CTGATAGAGT TATTCACATC TTATTTCAAC    3840

TCACTATAGA AGGAGGAATA GGAGGATTCT CAGACATCCG GGCATCAGCC CAACTAATGA    3900

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CTTGTGGGCT TACCTGTGCA GTCAGGTTAA TCAAAATCTT GAAAAAATTC GTCAGCGAGA    4200

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CTTGAACAAG GACTAGAGCG TGGGAAAGTT GAAGGAAGGG CAGAAAGGAA ACTTTTTGCC    4680
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605

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TTCCTAGACA TAGTACGCCA AGGTCTTCTG ACTTCTGAGG TTGCCAGCCA GCAATTAGGT      4740

ATGTCAGTAT CTGAATTTGA GGCACTGTTG TAAAATGGCT CCATAATATC CATAGTGGGT      4800

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CAACCAATTT CTTAATAGCT GATTTTTGGA TATTGTCCGT AGCAGGACCA GAAAGAACTG      5520

GGTGCGTACA GCTTGCATAG ACTTCAACAG CACCAGCTTC CGCAAGAGCA TCTGCCGCAT      5580

GACAAATCGT TCCAGCGGTA TCAATCATAT CATCAATCAA GATACAAGTC TTGCCTTCAA      5640

CCTTACCGAT GATATTCATA ACTTCACTAG TATTCATCTT ATCAACGCTA CGACGTTTAT      5700

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ATGTATAACT TGTGCTTTTC ACAAGATTTT CCATCTACCA TTGTAGCGCT TTTTGCACTA      6360

TTTTTCAATC AAAAATAAAA GAAGGGCACC ATATTTGTAC CCTTGCATCA TTCTTTTGAA      6420
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606

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AAATATTCTA GGTCATCAAC TCATTGTGTT TCTCAACAAA GCAATAAGCA TGATAAAAAC    6480

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GTTTCTTGCC AACCTTCTGT CCTTTATAGG CTCTGTAAAG CAAGTAAACA CCTACTACAG    6660

CTAGACCTGA AAAAGTCCAG TGAGAGGCAA TTCCTGAGAT GATACGCTCT AAAATTCGCG    6720

AAATAGTAAA GTCAAAGCCC TCTGGCAAAT CCGTACGAAT ATAACCAATA TCCTTAATCA    6780

TTTGGAATCC CAAACCGGAA GCAATTCCAA GTAAAACAA AGATTTTAAT TTTCGCACAG      6840

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AATCGCAGGT TCATCCAATT TAACACCACC AGCAGATTTG AGATAGGCAT CCTGATTTTG    8160

CAAGAGAAGC CCTGCCCGTT TTTCCAAAAC AGCCATAATC AAGCTAGCAC GGTTAAAATC    8220
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607

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AAGTCCTGTC GTAGTACGCT TGGCATTTCC AAACATGGTC GGTGTTACCA AAGCCTGAAC          8280

CTCCGCCAAA ATCGGACGCG TCCCTTCCAT GGTTACAACG ATGGAGGAAC CAGTCGCCCC          8340

ATCCAAACGC TCTTCTAGGA AAACTTGACT CGGATTGAGT ACCTCAACCA AGCCGCCCGA          8400

CTGCATCTCA AAAATCCCAA TCTCATTAGT GGAACCAAAA CGATTTTTGA CCGCTCTCAA          8460

AATACGAAAG GTGTGGTGAC GCTCCCCTTC AAAGTAAAGC ACCGTATCCA CCATATGCTC          8520

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608

CGAGGATTTG AAGAACGATC ATAGAGGTAG AGAACCTCAG TCGGCTGCAT ATAAGCCTTA   10020

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AAGTCGTAAC CAGTCGCATG CGCTGTCTCA CGCTTGGGCA ATAAATTTTC ATCTGTAAAA   10140

CTCGAAACCA ATTCAAAACC ACGAATTTTC ATAATTTTCT CTTTTCTATT ATCATTTATT   10200

CTAGATTATT CTATACTTAT TTA   10223

(2) INFORMATION FOR SEQ ID NO: 74:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 16535 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 74:

TGGTTCTGTC CTTATCGGCG CCTTGTCTTG CTTGCCATGG CTACACCAAC TATCTCATCC   60

GACGAAAGTA CACCAACCAC TAACGAACCC AACAACAGAA ATACAACCAC CCTTGCCCAA   120

CCTCTTACTG ATACAGCAGC TGGCTCTGGT AAGAACGAAA GTGATATTTC TTCACCTGGA   180

AATGCAAACG CTTCCCTAGA GAAAACAGAA GAAAAACCTG CTGCAAGCCC AGCCGATCCA   240

GCACCACAAA CTGGACAAGA TCGTTCAAGT GAGCCAACTA CTTCTACTAG TCCAGTAACA   300

ACTGAAACTA AGGCAGAAGA GCCCATCGAA GATAACTACT TCCGTATCCA TGTCAAAAAA   360

CTTCCTGAAG AAAACAAGGA TGCTCAAGGA CTATGGACTT GGGACGATGT TGAAAAACCA   420

TCTGAAAACT GGCCAAACGG AGCTTTGTCC TTCAAGGATG CCAAGAAAGA TGACTACGGC   480

TATTACCTAG ATGTCAAATT AAAGGGAGAA CAAGCCAAGA AAATTAGCTT CCTCATCAAC   540

AATACAGCTG GAAAAAATCT AACCGGCGAT AAATCTGTAG AAAAACTAGT TCCAAAAATG   600

AACGAAGCTT GGTTAGACCA AGATTACAAG GTTTTCTCTT ACGAGCCACA GCCTGCAGGA   660

ACTGTTCGCG TCAACTACTA CCGCACAGAT GGCAACTATG ACAAGAAATC TCTCTGGTAC   720

TGGGGAGATG TGAAAAATCC AAGTAGCGCT CAATGGCCTG ACGGAACAGA CTTTACGGCT   780

ACAGGCAAAT ATGGCCGCTA TATCGACATT CCTCTTAATG AAGCCGCAAG AGAATTTGGA   840

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TACACAAATC CATACTATGT CCATGATATC CGTATGACAG GAGCCCAACA CGTAGGCACT   1020

TCTAGCATTG AAAGTAGCTT TTCAACACTT GTCGGTGCTA AAAAAGAAGA TATCCTCAAA   1080

CACTCCAACA TCACTAATCA CCTAGGAAAC AAGGTAACTA TTACCGATGT TGCAATCGAT   1140

609

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GAAGCTGGTA AGAAAGTGAC CTACAGCGGA GATTTCTCTG ACACAAAACA TCCTTATACT      1200

GTTAGCTACA ATTCCGACCA ATTCACTACC AAAACAAGCT GGCGCCTGAA AGATGAGACA      1260

TACAGCTATG ATGGCAAACT GGGAGCTGAC CTAAAAGAAG AAGGAAAACA AGTTGATTTG      1320

ACCCTTTGGT CACCAAGTGC TGATAAGGTT TCTGTTGTTG TCTACGACAA GAATGACCCT      1380

GACAAAGTAG TTGGAACTGT CGCTCTTGAA AAAGGGGAAA GAGGAACTTG GAAACAAACT      1440

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GCAAAAGACT TGACCAAACC ATTTGGGACT TTTGAAGCCT TCATTGAAAA ACTAGACTAT      1800

CTCAAAGACT TGGGTGTAAC CCATATCCAG CTCCTTCCAG TCTTGTCTTA CTACTTTGTC      1860

AATGAATTGA AAAACCATGA ACGCTTGTCT GACTACGCTT CAAGCAACAG CAACTACAAC      1920

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AATCCAGAAA AACGAATCGC AGAATTTAAA AACCTCATCA ACGAAATCCA CAAACGTGGT      2040

ATGGGAGCTA TCCTAGATGT CGTTTATAAC CACACAGCCA AAGTCGATCT CTTTGAAGAT      2100

TTGGAACCAA ACTACTACCA CTTTATGGAT GCCGATGGCA CACCTCGAAC TAGCTTTGGT      2160

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GCCGCTTCTA TCGAAGAAGC TTACAAGGCT GCACGCGCCC TCAATCCAAA CCTCATCATG      2340

CTTGGTGAAG GTTGGAGAAC CTATGCCGGT GATGAAAACA TGCCTACTAA AGCTGCTGAC      2400

CAAGATTGGA TGAAACATAC CGATACTGTC GCTGTCTTTT CAGATGACAT CCGTAACAAC      2460

CTCAAATCTG GTTATCCAAA CGAAGGTCAA CCTGCCTTTA TCACAGGTGG CAAGCGTGAT      2520

GTCAACACCA TCTTTAAAAA TCTCATTGCT CAACCAACTA ACTTTGAAGC TGACAGCCCT      2580

GGAGATGTCA TCCAATACAT CGCAGCCCAT GATAACTTGA CCCTCTTTGA CATCATTGCC      2640

CAGTCTATCA AAAAGACCCC AAGCAAGGCT GAGAACTATG CTGAAATCCA CCGTCGTTTA      2700

CGACTTGGAA ATCTCATGGT CTTGACAGCT CAAGGAACTC CATTTATCCA CTCCGGTCAG      2760

GAATATGGAC GTACTAAACA ATTCCGTGAC CCAGCCTACA AGACTCCAGT AGCAGAGGAT      2820

AAGGTTCCAA ACAAATCTCA CTTGTTGCGT GATAAGGACG GCAACCCATT TGACTATCCT      2880
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610

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ATTGCCCTTC GTCAATCTAC AGATGCCTTC CGACTTAAGA GTCTTCAAGA TATCAAAGAC      3060

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611

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612

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613

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614

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615

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616

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617

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ACACCACCGT ACGTGCCGTT TGGCATACGG CGGTTCAACT AACTTTTAAC GCATGTCGTT    16020

CAAGGTAATA ATCCAAACAC GAAACCAGTC CACGTTTTTC CAGGACTGGT TTTGATATAG    16080

CACGTTTAAG TACCGACTTC TGAGCTACTA ATTGATAATG GTCGCCCCAG CCAGATACCT    16140

TATCTGCTAT CCATTTAGGA ACTCCTAACT TAAGCAATCC CCATAATCGT CTCGATTTCT    16200

TCTTCCATTG CTTCCAGATA ATCACTCGTA GGCGAGTACG CAAGCGCTCA TCTATGCTGG    16260

CGACTATACT TTTCATATTT CCCAATGAGC AATAGTTTAT CCATCCTCGA ATAGACAAAT    16320

TCAGTTGCTC AATACGTCTT GTTAGGTCTA TACTCCATTT CCTCTGTGTT AGTTTCTTCA    16380

ATTTAAACTT AAATCTCCGA ACACTATCTT GATGTGGACG GCTTTTCCAA CCATCTGATA    16440

ATTTCCAGAA CCCAAAACCT AGATATTTCA ACTCTCTTGG TCATGTTTAC TTTCAAACCT    16500

AGCCGTTTCT CAATAAACGA CTGACTGAAT ACATC                              16535
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(2) INFORMATION FOR SEQ ID NO: 75:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 8136 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 75:

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CCAGAGCGTT GCGTCCGAAA GTCTATCCAG ACACGGCTCT TTAAAAACAA AAGGAGAAAT    60

GATGCATACT TATTTGCAAA AGAAAATTGA AAATATCAAA ACAACCCTAG GTGAAATGTC    120
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618

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AGGTGGTTAC CGTCGTATGG TTGCGGCTAT GGCTGATTTA GGATTTTCAG GAACTATGAA        180

GGCTATCTGG GATGACCTCT TTGCCCATCG TAGTTTTGCC CAGTGGATTT ATTTGCTGGT        240

TTTAGGAAGT TTTCCTCTCT GGCTGGAGTT GGTTTACGAA CATCGTATTG TTGACTGGAT        300

TGGGATGATT TGTAGCTTGA CAGGGATTAT CTGTGTAATC TTTGTATCGG AAGGTCGAGC        360

AAGTAATTAT CTTTTTGGCT TGATTAACTC TGTTATTTAC CTTATTTTGG CCCTACAGAA        420

AGGCTTTTAT GGTGAGGTGC TGACGACACT TTACTTCACA GTCATGCAGC CAATTGGACT        480

TCTAGTTTGG ATTTATCAGG CACAGTTTAA GAAGGAAAAG CAGGAGTTTG TCGCGCGTAA        540

ACTGGACGGC AAGGGCTGGA CAAAGTATCT TTCCATTAGT GTGCTTTGGT GGTTGGCCTT        600

TGGCTTCATT TATCAGTCTA TTGGTGCCAA TCGTCCCTAT CGTGATTCAA TCACAGATGC        660

AACCAATGGG GTAGGGCAAA TCCTCATGAC AGCTGTTTAC CGTGAACAGT GGATATTCTG        720

GGCGGCTACC AATGTCTTTT CAATCTATCT CTGGTGGGGA GAAAGCCTGC AAATTCAAGG        780

GAAATATCTA ATTTATCTCA TTAACAGTCT AGTTGGTTGG TATCAATGGA GCAAGGCAGC        840

TAAGCAGAAT ACTGATTTAC TTAACTAGGA AAAGATGTTT GAAAGTGCTG TTTTGAGATT        900

TCGATTAAAA CAGATATAGT TGATAATCAA GGATTTATAG TATGAAAAAG AGGATCGGCG        960

GGTCCTCTTT TGTTGTTGAA AAGATAAAAA ACTCAGTAAC CTAGAAATAA GACAACTGAA       1020

GCTTTACTCT ATATTCAATT TTTAGGAATG AGAAGGTCTA GATAAAATTG GACAACTTCC       1080

TGGTCTGTGA AATCTTGACC TTTTTTGAGC CACCAGGTCA ATGTCTCGAT AAAGTTGGAC       1140

ATGACCAAGT GTTGGAGGTA AGAAGTAGGC AGATTAGGGT GGGCTTCTTT TAAATTATCA       1200

GCTAGCACGG AATAGACATG GTGTTCTAGC TCTTTATGGA GTTGACGGAG GAAGTAGTCA       1260

TTTTTGGAAA ATAGCAGACT GGTGATATGG TCTTGGTTTT TATGAAAATG GAGAAAGAGG       1320

TGGGCGAGGT AGTCCTCGGT TGAAATGGCT TGCTCTCTTT CAAAAAGATG ATGGAAGAGG       1380

TAGCGGCAGA GCTGGTCCAG AAGAAGCTCC TTACTCTCAT AGTGACAGTA AAAGGTGGAT       1440

CGTCCCACAT CTGCGAGATC AATGATATCC TGAACAGTAG TGGCCTCGTA GCCCTTAGCA       1500

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ATTATAACAA AGGAATGAGA AATATGAAGG CAAAATATGC TGTTTGGGTG GCTTTTTTCT       1740

TAAATTTGAC TTATGCCATT GTTGAGTTTA TTGCAGGTGG AGTATTTGGT TCTAGCGCTG       1800

TTCTTGCTGA CTCTGTGCAT GACTTGGGAG ATGCGATTGC AATTGGAATA TCAGCTTTTC       1860

TAGAAACAAT CTCCAATCGT GAAGAAGACA ATCAGTACAC CTTGGGCTAT AAGCGGTTTA       1920
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619

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GCCTGCTAGG AGCCTTGGTA ACAGCTGTGA TTCTCGTAAC GGGCTCTGTT CTAGTCATTT    1980

TGGAAAATGT CACGAAGATT TTGCATCCGC AACCAGTCAA TGATGAGGGG ATTCTCTGGT    2040

TAGGAATTAT TGCGATTACT ATCAATCTGT TAGCGAGTCT GGTGGTTGGT AAGGGAAAGA    2100

CAAAGAATGA GTCTATTCTG AGTCTGCATT TTCTGGAAGA TACGCTAGGG TGGGTAGCTG    2160

TTATCCTGAT GGCGATTGTT CTTCGATTTA CGGACTGGTA TATCCTAGAT CCTCTTTTGT    2220

CCCTTGTCAT TTCTTTCTTT ATTCTTTCAA AAGCCCTTCC ACGTTTTTGG TCTACACTCA    2280

AGATTTTCTT GGATGCTGTG CCAGAAGGTC TTGATATCAA GCAAGTAAAG AGTGGCCTGG    2340

AGCGATTGGA CAATGTGGCC AGCCTTAATC AGCTTAATCT CTGGACTATG GATGCTTTGG    2400

AAAAAAATGC CATTGTCCAT GTTTGTCTAA AAGAAATGGA ACATATGGAA ACTTGTAAAG    2460

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CAGAATATAT TCGCTTCCAC TATGCAAACT GGGCGCTGGT TAAAATCCCT GGTCAACCTT    3600

CTGACTATAC AGAAGGGATG CTCAAGTCCC TTTTGACTCT TGCAGATGTC ATGCCGACAG    3660
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<div align="center">620</div>

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GCTATCATGC GGCGCGTGTT GCAAATGTTC AAAAAGGGGA CAAGGTTGTT GTTATCGGTG    3720

ATGGGGCTGT TGGTCAATGT GCTGTCATCG CGGCTAAGAT GCGTGGAGCA TCACAAATTA    3780

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TTGTTGCAGA ACGTGGTCAA GAAGGAATTA CCAAGGTGCG TGAAATCCTC GGTGGAGGAG    3900

CAGATGCAGC ACTTGAATGT GTTGGTACGG AGGCTGCTAT AGAACAGGCG CTAGGTGTTC    3960

TTCATAATGG AGGGCGTATG GGCTTTGTAG GAGTCCCACA CTATAATAAT CGTGCTCTTG    4020

GTTCGACATT TATGCAAAAT ATCTCTGTAG CAGGTGGGGC AGCTTCTGCT ACAACATACG    4080

ATAAGCAATT TTTACTAAAA GCCGTCCTTG ATGGTGATAT CAATCCAGGT CGCGTCTTTA    4140

CTTCAAGTTA TAAACTGGAA GATATCGACC AAGCCTATAA AGATATGGAT GAACGTAAGA    4200

CAATTAAGTC TATGATTGTA ATCGAATAAA AAACGAATAG GAGTTTTAGA ACTCTATTCG    4260

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TTGGTCAGAC TAGTGTCGTT AAAGGAAATG AGGCTGACGC GATCTGGCAG GCTGATTCCA    4500

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ATAAATCCTC CTTGATTAGG TTAGTATATC ATGTTTTTCT TCTTTTTACT GATATTTTAC    5340

TAAAATTTTA GTAAAAAGGA TTGACCTTGG AAAATTCCTT GGATATAATA GAAAGAAAAC    5400

GATTACACGT TAAGATGGCT TAACGGACAG TCAAAGGAGA ATTCATATGG CACAACATCT    5460
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621

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TACTACTGAA GCCCTTCGCA AAGACTTTCT TGCTGTTTTT GGTCAAGAAG CAGATCAAAC      5520

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AGTCTTGCGT TTCTACTCAG CTAACTTTGA GGACAAGGGC ATTATCGAAG TGCCTCTCGC      5700

TGACCTCAAG TTTGAAAAAG AGCACAACTG GACCAATTAT CCAAAAGGTG TCCTTCATTT      5760

CTTGCAAGAA GCTGGGCACG TGATTGACAA AGGTTTTGAT TTTTATGTTT ATGGAAATAT      5820

TCCAAATGGT GCTGGCTTGT CTTCTTCTGC ATCCTTGGAA CTCTTGACAG GAGTCGTGGC      5880

TGAGCATCTC TTTGATTTAA AATTAGAGCG TCTCGATTTG GTTAAAATCG GCAAACAAAC      5940

AGAAAACAAC TTTATCGGAG TAAACTCTGG CATTATGGAC CAGTTTGCTA TTGGTATGGG      6000

GGCAGACCAA CGTGCTATTT ACCTAGATAC TAATACTTTA GAATACGACT TGGTGCCACT      6060

TGATTTGAAG GACAATGTCG TTGTTATCAT GAACACCAAC AAACGCCGTG AATTGGCGGA      6120

CTCTAAATAC AATGAACGTC GTGCTGAGTG TGAAAAAGCA GTGGAAGAAT TGCAAGTTTC      6180

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TGCGTCACAC GTTTCTCTGG AGCATGATTA TGAAGTAACT GGTTTGGAAT TGGATACCCT      6420

TGTTCACACA GCTTGGGCAC AAGAAGGAGT TCTCGGTGCT CGTATGACAG GGGCTGGTTT      6480

TGGTGGCTGT GCcATTGCCT TGGTTCAAAA AGATACTGTT GAGGCCTTTA AGGAAGCTGT      6540

AGGCAAACAC TACGAGGAAG TAGTTGGATA CGCTCCAAGC TTCTATATCG CTGAAGTTGC      6600

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TAGTCAGACT GCGCGTGAAA TCCTTGGTGC TGAACTGATG GATTTGGTGA CTCCTTGTCC      6900

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GGATTTTTAC CAACTCAGTC AGAAAAATGA CTACATCAAA CTCAAGGCCA TTGCTAGAAA      7020

TATCGCTTAT CGTGTTCCAT CTGACTACGG AGAACTTGAA ATTACCATCA ATCTCTCTAA      7080

GCCTGAAAAA GATCCCAAAG AGATTGTGGC AGCCAAGTTG GTGCAAGCTA GTAATTATCC      7140

TCAGTGTCAG CTTTGTCTAG AGAATGAGGG CTACCATGGT CGAGTTAACC ACCCAGCTCG      7200
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622

TAGCAATCAC CGTATTATCC GTTTTGAAAT GGTTGGTCAG GAATGGGGTT TCCAGTATTC   7260

GCCCTATGCT TACTTTAATG AGCATTGTAT CTTTTTAGAT GGCCAGCATC GTCCCATGGC   7320

CATTAGTCGT CAGAGTTTTG AACGTCTGTT GGCTATCGTA GACCAGTTTC CAGGATATTT   7380

TGCTGGATCT AATGCCGACC TGCCGATTGT GGGGGGCTCT ATTCTAACTC ATGATCATTA   7440

TCAGGGAGGC CGTCACGTAT TTCCTATGGA ATTGGCTCCC TTGCAAAAGG CCTTCCGATT   7500

TGCTGGTTTT GAGCAGGTCA AGGCTGGAAT TGTCAAGTGG CCCATGTCTG TCCTACGTTT   7560

GACTTCGGAT TCCAAAGAGG ATTTGATCAA TTTGGCTGAT AAGATTTTGC AGGAATGGCG   7620

CCAGTATTCA GATCCTGCAG TGCAGATTTT GGCAGAGACA GACAGGACAC CGCATCACAC   7680

TATCACACCC ATTGCCCGCA AACGCGATGG ACAGTTTGAG TTGGACTTGG TCTTGCGAGA   7740

CAATCAGACT TCAGCAGAGT ATCCTGATGG TATCTATCAT CCCCACAAGG ATGTCCAACA   7800

TATCAAGAAG GAAAATATCG GCTTGATTGA GGTCATGGGC TTGGCAATCT TGCCACCACG   7860

TCTGAAAGAA GAAGTGGAGC AAGTCGCTAG CTATCTTGTA GGAGAAGCTG TTACAGTTGC   7920

CGATTATCAT CAGGAGTGGG CAGACCAACT CAAATCCCAA CATCCAGACT AACGGATAAA   7980

GAAAAAGCCC TTGCAATCGT CAAGGACTCT GTGGGTGCTA TCTTTGCGCG TGTACTTGAG   8040

GATGCAGGAG TCTACAAGCA GACAGAACAA GGGCAGACAG CCTTTATGCG CTTTGTGGAA   8100

CAGGTCGGAA TTTTACTAGA CTAGGAGCTT TCTCGG   8136

(2) INFORMATION FOR SEQ ID NO: 76:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 10011 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 76:

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TTTTGCGTGT TTAAGTTGAT AAGCTGTTTT TAACACAGCT GAACATCTCT TCAAAAGTCG   120

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CATTCATAGA ACTACTATAC CATGTTTTGT TTCGCAGGAA GTCTAATATT GTCAAATACT   240

GGAACGCTCA TTGCTGGGAT ACGGAATAAG ATTGGCCCAG CTTCGATAAC TGGGATACCT   300

GGTTCAAAAC CAAGGTCTGT TGCAGCGATT GGTGTAAAGA TATCGTAACC TTTCATAAGG   360

TCTTCGTTTA CATCTTTCAC CATAACTGCA TCACAGTGAA CATCGTAACC ACGGTTTGAA   420

AGTTCTTCTT CTAGAGCACT TTTAATTTGG TGACTTGAGT TAACACCTGC ACCGCAGGCA   480

623

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GCAAGAATTT TAATCATTTG GATTTCCTCC GATTTTATTT TTTAATAGAC AAGATTAAGC        540

GGTTGCTTCA GCAATGTAAG CATAAAGGGC TTCTGGTTCA GAAATTTTTG ATAGGTCTTC        600

AAGATGACCA TTTCCTGTGA AGAAGTCCAT TAACTGAGCA AGAATGTTCG TTTGACTTGA        660

ACTTGAATTA TTGATGATAA AGAAGAGCAA GGATACTTCT ACTTCCTTAC CTGGCGCAAT        720

CATATTATGG AAAGTCACCG GTTTCTCTAA TCGAACAACC ACCACTTTCT CAGCTAGATT        780

ATGAACAATA TCTGTGTGAG GAATCATTAC ATTTGCAAGT CCTTTCCTAG AAATTCCATA        840

TATAAACCAG TTGGAAATGA CTTTTCACGC GTGATCAAGG CTTCACGATA AGTTGGAGTG        900

ACAATTTCTC GTTCTTCCAA CAAGCTTGCT ACCTGATCAA AAAGTTATTC TTGATTATCC        960

GCTTCTAAGC AAAACACAAG GTTTTTGTCA AAGAAATAAT CTAATACCAT AAGGTTTTCC       1020

CTTCTTTCCA TTAACTTTAT GCTATAAGTA TAACACTATA TGAAATCGTT GTTAATTACT       1080

TTCTATTCTT TTTTGTCTCT TTTTTTATAT TTTTGTTTTG TTTATAGTTT GTTATATAAA       1140

AATAAACACA CAAACAAATA CTCCAAGCAT TTTTCTGTTC TAATACTCAA TGAAAATCAA       1200

AGAGCAAACT AGGAAGCTAG CCGCAGTTGT TCAAAACACA GTTTTGAGGT TGTAGATGAA       1260

ACTGACGAAG TCACTCAAAA CATGGTTTTG AGGTTGTAGA TGAAACTGAC GAAGCAACAg       1320

CCATACATAC GGTAAGGCGA CGCTGACGTG GTTTGAAGAG ATTTTCGAAG AGTATAAAAA       1380

CTAAAAAAGC AGACCATCTA AGCCTGCTTT ACTATTGATT CTTATATAAA TTTCCTGTGA       1440

ACAAGGAAAG GCATTTCTGA TAACTTATTC TTCATCCATA CTCAAGACGC TGAGGAAGGC       1500

TTCTTGCGGA ACTTCAACTG ATCCGATGGA TTTCATGCGT TTCTTACCAG CTTTTTGTTT       1560

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ACGAAGGGCC TTGATATCAG TACGAGCGAC AATCTTGTGT CCAATAGCCG CTTGGATTGG       1680

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CCCACGCTTA CGCTGAGCTA GCTCCATTAC TGCTCCGACG AACTCCTGTG GTACCATGAT       2040

TTGCGCCTTG ACATAAGGCT CTTCAATGGT CGCAATCTTA GTTGGGTCTG AAACTCAGA       2100

TGGGTTAGAC ACATCCATAG ACTCACCGTC GGTCAAATTA ACTTTGTAAA TAACAGACGG       2160

AGCTGTCATG ATGAGGTCAA TATTGAACTC ACGCTCTAAA CGTTCCTGGA TAACATCCAT       2220
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624

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ATGGAGAAGT CCAAGAAATC CACAACGGAA ACCAAATCCA AGTGCCTGAG ATGTTTCTGG    2280

TTCAAACTGA AGACTAGCAT CATTCAGTTG CAATTTTTCA AGcGCTTCAC GCAGGTCATT    2340

GTACTTGTTT GATTCGATTG GGTAGAGACC CGCAAAGACC ATAGGATTCA TCTGCTTATA    2400

ACCATGTAAT GGTTCTGCCG CAGGATTGGT TGCCAAGGTA ACGGTATCAC CCACACGAGT    2460

ATCCTGAACC GTCTTGATAG ACGCCGCAAT GTAACCAACA TCACCAGTCG CAAGGAAATC    2520

ACGACCAACC GCTTTTGGTG TAAAAATACC GACTTCGGCC ACATCAAAGG TCTTACTATT    2580

GCTCATGAGC TGAATCTTAT CACCAGGTTT GACCACTCCG TCCATGACAC GCACTTGGAG    2640

GATAACCCCA CGGTAAGCAT CGTAAACAGA GTCGAAAATC AAGGCCTTAA GTGGCGCCGT    2700

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ACGGTGACTA TCCTCACCTC TGTCAATCAA ATCACCTAGA AAGAGCAACT GGGGCTGACC    4020
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625

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ATCCCAGGTT TTGAGAAGGT CTTCCAGCAT CCCAGCTTTT CCGTGAACAT CTCCAATTAC    4080

ATAATAATCT GTCATCTTAT TTCTCCCTGT TTCTCAACAA TTCTCTTGCT TGCGTCAGGG    4140

CTGCTTCTGT CACATCATCA CCTGCCAACA TCTTGGCAAC TTCCTCCACT CGCTCTTCGA    4200

CCGTCAAGAG ACGAACAGTC GAAACCGTTG AATGGTCATT ACTAATCTTC TCAATAAAGA    4260

ATTGATAATC TGCAATCGCA ATTACTTGTG GCAAATGGGA GATAGCCAAA ACCTGACCAT    4320

GCTGACCAAT TTTATGAATT TTCTGAGCAA TAGCTTGAGC AACACGACCT GAAACTCCCG    4380

TATCCACCTC ATCAAAGACA ATGCTAGTCT TGCCTTCTTT ACGTGAAAAG GCAGACTTAA    4440

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CCAAATTGAC AAGATTGACT TCCAACTTCT TAAGCTCTGC TTCCATGTCC TCAGACGAAA    4740

GATTATTGCC TGTCAAGAGA TTGTATTCTT CCGTAATCTT GGCAAAATAA AGCAAAACAT    4800

CATCAACAGT CCCACCATAC TTACGAGTAA TAGTATGAAG GAGGTCCAAA CGATTCTCAA    4860

CCTGCATCAG GCGATTGCCA TCAAAATCAA GGTCCTCAAT GATAGCTTCC AAACGTTTGC    4920

TAATGTCTTC TAAAACATAG TAGGTCTCAG ACAGATAGCT TGAAATTTCA CGGTATTCAG    4980

GATCATACTC TTCGACACTT TCCATGTCAT TCATAGCTGA ACGAACATTG GCCAGACTTG    5040

AAAAATCTTC ATTGTCCAAC ATACTGTAGG CATTGGTCAG TGTATCCGCA ATATTTTTGT    5100

GGTTGAGGAG TTTATCTCGC TCTTGATTGA GAGCCAAGTC TTCTCCAGCC TGCAAGTTTG    5160

CTGCCTCAAT CTCTGCCATT TGAAATTCCA ACATTTCGAT ACGTGCCTTG TGTTCCTGTT    5220

GGTTTTTCTT GACTTCCAGA ACCTGCTTGC GCATTTTCCG ATAGGCATCA AAACTCGTTT    5280

GATAGGTTTC TTTCAAGTCC CAAAAAGCGG CATCACCAAA TTCATCCAAC ATCTGGATAT    5340

GCAGTTGGGG ACGCATTAAC TCCTCATGGT CATGCTGACC ATGAATATCT ACAAGATGTT    5400

GCCCAATAGC TCGCAAAACA GACAGATTAA CCATCTGACC ATTTACACGG CTGATACTAC    5460

GACCATTTTG CAAGATTTCC CGACGGATGA TAATTTCATC ACCTAATTCT AAACCTTGCT    5520

CATCAAAAAT TTCCTGTAAA AGACGACTAT TCTCAACTGA GAAAAGCCCC TCAATCTCTG    5580

CCTTTGGTGC ACCATGACGA ATAACATCTG TCGTCGCACG AGCTCCCAAC ATCATATTCA    5640

TGGCATCAAT GATAATCGAC TTCCCTGCAC CCGTTTCACC AGTCAGGACA GTCATCCCCT    5700

TTTCAAAATT GAGGGAAATA GCCTCAATAA TGGCAAAGTT TTTTATCGAA ATTTCAAGTA    5760
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626

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ACATATAGAC CTACCAATTT TTTACTTGTT CAAAGATTTC CTCTGCTAGA CTTCCACTTC        5820

TGGCAATGAC TAAAATCGAG CTATCATCAG TCAAACAGCT AAAAATCTTG TCTGCAAAAG        5880

TCTCGATTAA CTGAGCTTTT ACAAAAGCCG TATTTCCTGG AATAACTTGG AGATTGATCA        5940

TCTTATCCAT CAATTCAGCC GATTCGATAT TGTCTTCAGC CAGTTGCAGA CTTTTTACGA        6000

TTGATTTTGG CAATTCGTAG ACATAGGTGT TGTCTCTCAA AGGAATTTTG ACAATACCTA        6060

ACTCTTTGAT ATCTCGGGAT ACCGTCGCCT GAGTGGCAGT GATACCTGCT TCTTTCAAAT        6120

GTTCTACAAT TTCTTCTTGC GTGCCGATTT GATAATCTGT CACCAATCTT CTAATTTTTT        6180

CAAGTCTCTC TTTTTTATTC ATTTTTAAAT TGACTATGCG CCCTCTCTAC TGCTTCTTTA        6240

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ATATTTCCAT GTCCACCTTG GATGGGAGAA AAGTCCAAGC CAAGGACTGA AAAACCTACC        6360

TCTACTGCCA TAGCTGTTAC AGATTCAAGG ACATTCTGAT GAACCTTAGC ATCTCGAATA        6420

ATTCCATTTT TCCCAATCTG CTCACGTCCT GCCTCAAACT GAGGTTTGAC AAGTGCTACC        6480

ACCTGACCTT GATCAGCCAA GACACGGTGC AAGGCTGGCA AAATCAGACT AAGGGAAATG·       6540

AAACTCACAT CAATACTGGC AAAGCTCGGC TCCTGCTCGA AATCAGTCTT TTCAGCATAG        6600

CGGAAATTGA ACTGCTCCAT GCTGACAACT CGTGGGTCTT GGCGTAATTT CCAAGCCAAC        6660

TGATTGGTAC CAACATCGAC TGCAAAGACC AACTTGGCAC TATTCTGTAG CATGACATCG        6720

GTAAAACCTC CAGTAGAGGC CCCGATATCA ATCGTAGTCG CGCCATCCAC CGACAAATCA        6780

AAGACCTGCA AGGCCTTTTC CAGTTTCAAA CCACCACGGC TGACATACTT GAGTTTCTCC        6840

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CCATTAAGGA CTGCTACGAC TAGGCCAGCC ATCACACCTC GCTTGGCCTG CTCTCTCGTT        6960

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ACTTTCTACT ACACTTACAA TCGATTCTGT TTCAAAGGGA AGCTGCTGGG CAATTTCTTC        7080

TAATTTTTCA TTAGCTTGAT CCAGGGTTTG GTTACAAAAG GCAATGGACT CTTCCAAGCC        7140

CAACAGGGCA GGATAGGTTG ATTTTTCTGC CTGCAGATCC TTTTGAGGTG TCTTGCCGAT        7200

TTCCTCAAAA CTAGCTGTCA CATCCAGTAC ATCATCTCTG ACTTGAAAAG CAAGTCCAAT        7260

CAATTCACCC ACAGTTTTCA GCTTCACCTG CATTTCAGGT GACAATTCAG CTATAATAGC        7320

TGCCGCTTGG AAGGGATAGG CTAGTAACTT CCCAGTCTTA TTGGCATGAA TAGTCTGAAG        7380

TTCTTCCAAA GACAAGTGCT GGTGTTCGCC CTCCATATCC AAAACTTGCC CTGCTACCAT        7440

ACCCAGACTA CCTGAAGCAA GGGATAAGTT GGCAATCAAG TCCACCTTAA TCTGACTTGG        7500

CAAATCTGCC TGCGCAATCA AGGCATATGA GTCTAAGAAT AAGGCATCTC CAGCCAAAAT        7560
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627

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GGCCATAGCT TCACCGAATT TCTTGTGATT GGTTAACCGC CCTCTTCGAT AATCGTCATC    7620

ATCCATAGCA GGAAGGTCAT CGTGAATCAA GCTCCCTGTA TGAATCATCT CTAAGGCAGT    7680

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ACTAGAGGCA AACTGCTGGT CTCCATAAAA ATCTTCCAAA GCCGACTCGA CAAGAGCTAA    7860

TTTTTCTTGC TTTTTCATTC AAAATCACTT TCTGTTCCGT CTTCTTGCAT GACCTTGACC    7920

AAGGTCTTTT CAGCCTTGTC CAGCGTAGCT TGGAGCTCTT TTGACAAGAC CATGCCCTTT    7980

TGAAAGGCAG TAATCGCATC TTCCAGAGCA ATTTCACCAT TTTCCAAACT TTGGACAATG    8040

GTTTCCAGTT CTGCTAGATT TTCCTCAAAT TTCTTTTGTT TTGACATCTT TAACCTCTAA    8100

TTCTACTTGA CCATCTCGCA TCAAAAGCGT TACTTGGTCT TTTTTCTTCA AACTCTCAAC    8160

CGAATCTACA ACGGACTCTT CTTTTTTGAC AATAGCATAA CCACGCGCCA CGATTCGGCT    8220

AGTATCCAAC ATGAGCAAAG CTTCCGAAAG TCGCTTGGCC TCAGCAACCT TGGCGTCATA    8280

AACTAACGCC ATTTGGCTAC CTAAGAGCTT GTCCAACTGT CCTAAACGGT CTTGATAGCG    8340

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TTTGTTATCA GAAATCCGAG TTCGCAAACT TTGTTTCAAA CGCAGTTGCA GTTGGTCCAA    8460

GCGTTGCAAA TAACCGTCAT ACAAGCGCTC AGGTTGTCTA AAGATAACAG ACTGACTGCA    8520

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TTCACCTTGA ACCTTGGTCG GATAAAGAAG GATGTCAACA CCTGGGAATC GCCTGCTGAC    8940

GGTCGTGATA ATATCTCGAA TAACGGCTCC ACTACGGCTG GTTACTACAC CAATTCTCTT    9000

AGAAAATTGG GGCAGAGCTT GCTTGAAGCG TTCTTGAAAC AGGCCTTCTT CTGTCAATTT    9060

TTTCTTAAGT TGTTCAAACT GAATCGCAAG CGCCCCAACC CCATCAGGCT CAGCTTTTTC    9120

AATGATGATG GAGTAGCTAC CACTTGGTTC ATAGACCTGT ACACGCCCAA TCACATTGAT    9180

CTTCATTCCT TCTTCCAGGT CAAACCCTAA TTTCTGATAA ATCCCAGACC AGATGGTCGC    9240

TTGAATAACT GCATGGTCAT CCTTTAGGGA GAAATATTGG TGAGTAGGTC GTTTACGAAA    9300
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628

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GTTGGAAACT TGACCAGTTA AATAGACCCG TTCCAAGTAT GGGTCTTTAT CGAATTTCAT      9360

TTTCAGATAC TTGGTCAAAG TTGTTACCGA TAAATACTTT TCCATCTCCA CCTACTATTC      9420

ATTTACTTGC TCTTTCATGG GTATTATTAT ACCAAAAATA TGCCTAAAAA TCTCCATTTA      9480

TGTACCATTA TGAGGGAAAA ATAGAAAAAG GAGGCAAGGC CTCCACATGT GATTATTTGC      9540

TGTTTCGAGC TTCTTCCAAA ATCTTTGCAA TCTTGGTCGT CAACAGGTCG ATAGCCACGG      9600

TATTGCTAAC CCCTTCAGGA ATGACGATAT CAGCATAACG CTTAGTTGAC TCGATAAACT      9660

GGTGGTACAT TGGTTTGACC ACACCTAAGT ACTGGTTAAT AACGCTATCA AGGCTACGGC      9720

CACGCTCCTC CATATCACGC TTGATACGAC GAATAATGCG CACATCGTCA TCCGTATCCA      9780

CAAAAATCTT GATATCCATC AAATCGCGCA GACGCTTGTC CTCCAAGACC AAAATACCCT      9840

CAACGATAAA GACATCTTGA GGTTCCTGAC GATAGGTCTT GCTACTCCGT GTATGCTCTG      9900

TATAGTCGTA GGTCGGGATG TCCACCGGAC GCCCTGCCAA CAATTCCTTA ATCTGCTCGA      9960

TCATCAAGTC TGTATCAAAG GCAAAAGGAT GGTCATAGTT GGTTTTGACG G             10011
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(2) INFORMATION FOR SEQ ID NO: 77:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 5365 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 77:

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CGTGTGGTCT TAAAAATAGA AGACAAAGAA CAAACTGTTG GAGGCTTTGT CCTTGCAGGC        60

TCAGCCCAAG AAAAAACCAA AACAGCTCAA GTTGTGGCTA CTGGACAAGG TGTTCGTACC       120

TTGAACGGTG ACTTGGTTGC TCCAAGTGTT AAAACTGGAG ATCGTGTCTT AGTTGAAGCC       180

CACGCAGGTC TTGATGTCAA AGATGGCGAT GAAAAGTACA TCATCGTAGG CGAcTAACAT       240

TTTGGCAATC ATTGAGGAAT AGAAGGAGAA AGTAAGTATG TCAAAAGAAA TTAAATTTTC       300

ATCAGATGCC CGTTCAGCCA TGGTTCGTGG TGTCGATATC CTTGCAGACA CTGTTAAAGT       360

AACCTTGGGA CCAAAAGGTC GCAATGTCGT TCTTGAAAAG TCATTCGGTT CACCCTTGAT       420

TACCAATGAC GGTGTGACCA TTGCCAAAGA AATCGAATTG GAAGACCATT TTGAAAATAT       480

GGGTGCTAAG TTAGTATCAG AAGTAGCTTC TAAAACCAAT GATATCGCAG GTGACGGAAC       540

TACGACTGCA ACAGTCTTGA CCCAAGCTAT CGTCCGTGAA GGAATCAAAA ACGTCACAGC       600

AGGTGCAAAT CCAATCGGTA TTCGTCGTGG GATTGAAACA GCAGTTGCCG CAGCAGTTGA       660

AGCTTTGAAA AACAACGCCA TCCCTGTTGC CAATAAAGAA GCTATCGCTC AAGTTGCAGC       720
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629

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CGTATCTTCT CGTTCTGAAA AAGTTGGTGA GTACATCTCT GAAGCAATGG AAAAAGTTGG    780

CAAAGACGGT GTCATCACCA TCGAAGAGTC ACGTGGTATG GAAACAGAGC TTGAAGTCGT    840

AGAAGGAATG CAGTTTGACC GTGGTTACCT TTCACAGTAC ATGGTGACAG ATAGCGAAAA    900

AATGGTGGCT GACCTTGAAA ATCCGTACAT TTTGATTACA GACAAGAAAA TTTCCAATAT    960

CCAAGAAATC TTGCCACTTT TGGAAAGCAT TCTCCAAAGC AATCGTCCAC TCTTGATTAT   1020

TGCGGATGAT GTGGATGGCG AGGCTCTTCC AACTCTTGTT TTGAACAAGA TTCGTGGAAC   1080

CTTCAACGTA GTAGCAGTCA AGGCACCTGG TTTTGGTGAC CGTCGCAAAG CCATGCTTGA   1140

AGATATCGCC ATCTTAACAG GCGGAACAGT TATCACAGAA GACCTTGGTC TTGAGTTGAA   1200

AGATGCGACA ATTGAAGCTC TTGGTCAAGC AGCGAGAGTG ACCGTGGACA AAGATAGCAC   1260

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GTCTCAAATC GAAACTACAA CTTCTGAATT TGACCGTGAA AAATTGCAAG AACGCTTGGC   1380

CAAATTGTCA GGTGGTGTAG CGGTTATTAA GGTTGGAGCC GCAACTGAAA CTGAGTTGAA   1440

AGAAATGAAA CTCCGCATTG AAGATGCCCT CAACGCTACT CGTGCAGCTG TTGAAGAAGG   1500

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CAGCTTGATT TTGACAACAG AAGCAGTCGT AGCCAATAAA CCAGAACCAG TAGCCCCAGC   1860

TCCAGCAATG GATCCAAGCA TGATGGGCGG GATGATGTAA GCTTTCTATA GAAAACAACT   1920

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AATAGGATGA ACTTGCTTAA GATTGTCCTC AATAAGTCCG AAAAATTTCT CCGGTTCCTT   2280

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ATAGCTCAAA AGCTTGTCTA AAATCTCTTT ATTGGTTAAA TGCATACGAA AAGTAGGACG   2400

ATAAAATCGC TTATCACTCA GTTTACGGCT ATCCTGTTGT ATGAGCTTCC AGTAGCGCTT   2460
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630

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GATAGCCTTG TATTCATGGG ATTTTCGATC CAATTGGTTC ATAATTTGAA CACGCACACG    2520

ACTCATAGCA CGGCTAAGAT GTTGTACAAT GTGAAAGCGA TCCAACACGA TTTTAGCATT    2580

CGGGAGTGAA ACAGTCTGGG AGACTGTTTC AGCCTGAGCC TAGAAATTTG AAAGCGAAGC    2640

TGTTTAGCCA AGTCATAGTA AGGACTAAAC ATATCCATCG TAATGATTTT CACTTGACAA    2700

CGAACGGCTC TATCGTAGCG AAGAAAGTGA TTTCGGATGA CAGCTTGTGT TCTGCCTTCA    2760

AGAACAGTGA TAATATTAAG ATTATCAAAA TCTTGCGCAA TGAAACTCAT CTTTCCCTTA    2820

GTGAAGGCAT ACTCATCCCA AGACATAATC TTTGGAAGCC GAGAAAAATC ATGCTCAAAG    2880

TGAAAGTCAT TGAGCTTGCG AATGACAGTT GAAGTTGAAA TGGCCAGCTG ATGGGCAATA    2940

TCAGTCATAG AAATTTTTTC AATTAACTTT TGAGCAATCT TTTGGTTGAT GATACGAGGG    3000

ATTTGGTGAT TTTTCTTTAC CAGGGGAGTC TCAGCAACCA TCATTTTTGA ACAGTGATAG    3060

CACTTGAAAC GACGCTTTCT AAGGAGAATT CTAGAAGGCA TACCAGTCGT TTCAAGATAA    3120

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GATGGGGCGT CGTAGTCCAG TTTGGCGATG ATTTCCTTGT GTGTATCCTT ATTGATGATG    3240

TCTAAAATCT GGATATTAGG GTCTTTAATA TCGAGCAGTT TTGTGATAAA ATGTAATTGT    3300

TCCATATGAA TCTTTCTAAT GAGTTGTTTT GTCGCTTTTC ATTATAGGTC ATATGGGACT    3360

TTTTTTCTAC AACAAATAG GCTCCATAAT ATCTATAAGG GATTTACCCA CTACAAATAT    3420

TATAGAGCCG AAAATTCACA TCTAATATAT GCAGACTACT TTGAAATGAA ATTAAAAAAA    3480

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CTGATAGATT AAATAGCATT TTCTCTGTTG AGATATTGTT TTTAAAATAT TGTACTAAAT    3720

GATTGATGCT ATGTGGAAAT ACAAAAAAAT GTTTTTGATA CGAAGTTGAC CTGTATTTTT    3780

TATACTAATC ATTTTCGTAT TTTTTGTATT AAACGATATA AGTTTGTTGT AAACTTACAA    3840

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GCATAAATCT CTTTCTAGTA ATGTGTTGTA ACTCTGCTAT AATAGATTTA TTCCTTTTTG    3960

TGTTTACACA ATTTATTTTA TAGTACCAAA AAAGGTCAGG ATTTTGTTCC TGACCTTTGA    4020

CAACTTTACC GATTCTTTAG TTCTACATAG CGCTTGTACC AAATGTTTAC ATAGGCTTCT    4080

GAGAAAGGAC CACGTCCATT GTTAATCCAA TCAACAAGAA TTTTGACATG TTCTTTTAAA    4140

ATATAGTCCA AGTCATCAGA ATAATTCATT TTGCGTTTGT GACGCTCGTA CTCTTCAACG    4200

TCCAAGAGAC GTTTTTCCCC ATCTGTAAAA ATTTTAACAT CCAAATCGTA ATCAATATAC    4260
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631

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TTCAGTGCTT CTTCATCCAG ATAGTAGGGG CTAGCCATAT TGCAATAGTA AGAAGTTCCA    4320

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AAAATCTGTG AATTTCACTT GGAAATATTA AAGATATTCT CTAAGAGCGC TTGCTATATC    4680

CGAAAAATCG TAGCCCTTTC GTGCTAAAAC TTGAGTTAAA CGCTGCTTCA GTTCGTATCC    4740

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AAAGGATAAG TGGTAGAGGG CCAGATTCTT ACCATAAGAA AATTGAGCAA AGTCTTGAAT    5280

CTCTTTCAAT TCCTCTTCGC TTATCACCTT ATCTCTCGAT AACATAAAAC GAACAATTGT    5340

GTCTTCGGTG ATATAGCATT TGTCG                                         5365
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(2) INFORMATION FOR SEQ ID NO: 78:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 3636 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 78:

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TTTCCAGAAA GAAGTTGAGT AAAGTCTTTA TCAAAGAGAA TGACTTCCGT ATTGGAACTG    60

ACATTAGGTT TTATTTCTAC TTTACTAGCG TCCGCCCTAG CATTTTCTAA ATCTTTAATC    120

TCTTCTGTTG CCCTATTTAT AGCCAGCTGA ATAACTGCTT GAGGATTTTC ACTCAGTCCA    180

TGAAGCTTAT CGTCCACCGA AGTATAAAGA CTCGAATGCA TGACTTGTAA AATAATCAGA    240
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632

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GTCATTGTAG AAAAAATCAG GGTGAAGACA CCGAAGTTGC GGATAAAATA ACTAAAGTCA        300

TCCGCATACC ATGTTTTTTT AAGTTTACTG AACATCTTTT AAAAGATACC CAACACTACG        360

CAAAGTTTGC AAATTCTCTG CAAAAGTGGT TCCCTTTAAT TTCTTACGGA CTTTTGAAAC        420

ATAGACTTCG ACAACCGAAA TCGTTGTATC ACTATCAAAT CCCCATAGAC GGTCAAAAAT        480

CTGCGTCTTA GGCAAAATCA CATTTTGATT TTGAAGGAAA TAAACTAGTA AATCGAACTC        540

TTTCCCCAGC AATTCGACAG GAGTATCTTC AACTTTAACG GTATTGGTTG ATAAATTAAC        600

CACGATATTC CCATAAGTCA AGGTGTTTTC ATTAAACTTC CCTGAACGTT TGAGAAGGGC        660

CTGAATCCGC ATTTTAAGTT CTTCTAGGTA GAAAGGTTTG GTCAGATAAT CATCCGCTCC        720

CAGTTCAAAT CCATGTCCCT TGTCATCCAA ACTTTCCTTG GCAGTCATAA TCAGAACTGG        780

TGTCGTAATT CCCTTTTCAC GCAATTCTTT TAAGACTTGG AAACCATTTT TTTCTGGCAA        840

CATCAAATCC AGCAAAATCA AGTCATAGAC ACCACTCTCA GCTTCGTAGA GACCTTCTTC        900

TCCATCAAAT ACCTGCATAA CATCCGCAAA ATCGTCTAAA AAGTCAAATA CTGAATTTGA        960

CAGACCTAGG TCATCCTCAA CCAATAAGAT TTTTATCATG AGAAACTCCT CCTTATTAAA       1020

ACTATTATAC CAAATTTGCC TTAAAAAAAA CTCAACTCTC TGCATTTTAC ATGAGATAGC       1080

TGAGTTTTCT TTTTATTTTA GGCTTATTTA TGCATTTCCG TATTGAAGAA CAACTGCTTC       1140

GACTGCAGCT TTTTCACGGC TAATCAAGTC AACACGCGCT GCAATTTCCT TGATTCCCAT       1200

ACCGATGTTA CGGCTAAGAG CAAGGTCAGA AAGTTGCGGT TCAAAGAACT CCTTGTATTC       1260

CGCCAAGCGT TGCTGAGTCT TAAATACATG AGCAGGAAGG ATAACAAAGC TATCAAAGCT       1320

CATATCTCCT CCAAGGGCTG CCTTAATCCA AGCCCAGTTT TCACGCGCCC AAGACCAAGC       1380

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TTTGACCACA AATTTGTCCT TCCAAGAAGT AATCAGGTTT TGGATATTAT CCGCATCTGT       1500

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TTCATCAATA AAGCGCTCAA GGGCTGAAAT CACTTGAGAA ACAGCTGAAA CCACCAGATA       1920

AGACTCTTCC TTAGCAAGTT TATCAAGAAC TGGAAGCAAG TCTGCATAAG AAATGTGCCC       1980

TGCCTCAGCC AACAAACGAC GTTCTTGAAC AATTTGCAGT TTGCTTGTGT TATCAAGTGT       2040
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633

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CTCTAGCTCA GCAAGAACAG CTGCTAACAA GTCTCCTTGA TAGTCGGTAA TATAGTGGGC      2100

AGTATTTTCA GTGTTGAGAC GAAGAGCTCC TTCATTTTCA GCAAGAAGAG CTGCGTAGCC      2160

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GGGCACCACC CAGAGACGGT TCTTGTCTTC GTTCTCACCG ATGAAGAATT GTTTTTGTGA      2280

AATCTTCAAG ACATCATTTT CAACTTTAAC AGTAAGAACT GGGTAACCAG GCTGTTCCAA      2340

CCAAGAATCC ATGAAGGCTG CGACATCACG TCCTGACGCT TGACCAAGGG CATCCCAAAG      2400

GTCACTACCA ATGGTGTTGC TGTATTGGTG TTTTTCAAAG TAGGCGTGCA AACCTTTAGC      2460

AAAATCAGCA TCTCCTAGCC AACGGCGAAG CATGTGCATG AGACGGCTTC CTTTGGCATA      2520

GACGATAGCG CCGTCAAAGA GTGTATTGAT TTCATCTGGA TGTTTAACTT CGACGTGGAC      2580

AGACTGAACG CCATCAGTAG CGTCACGTTC AAGAGCAAGA GGTACTCCAC CTGTTTGGAA      2640

ATCTTCAAAG ATATTCCAGC TTGGTTCGAT GGTATCCACA CAGACGTATT CCATCATATT      2700

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CCATTGGTGA GCCAATTCAT GGGCCACAAC AAGGGCAACT TGTTGACGGC TAGCAAATGT      2820

AGAGTTCTCA TCGACAACCA AGTAAACTTC ACGGTAGGTC ACAAGACCCC AGTTTTCCAT      2880

AGCACCAGCT GAGAAGTCAG GAAGGGCGAT GTGGAGAGAT TGAGGAATTG GGTACTTAAC      2940

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TGTTGTCTCA AACTTCCAGA TACCTGTTTC CTTACGGTTT TCAACATCGA TTTCTGGCAT      3180

GTTTGACAAG GCCAATTCAC CTTCTGCTTG GTCAAAGCGA AGAGAGAGGT CAAAAGTTGC      3240

TTTGGCTTCA GGCTCATCCA CACATGGGAA AGcTTCGCGC GCAAAATGGC TCTCGAACTG      3300

AGTAGACAAG ACCTCCTTCT TGACTCCATC AACTGTATAA TAAGAAGGGT AAATCCCTGT      3360

CATGTTGTCT GTAATTTTAC CAGAAAAGGC AAGAACCAAT TCAACTTGAC CAGCCTCAGC      3420

CAATTCGATA TGAAGGGCTT CATTGTCATG GTCAACTGTA AATGGACGAG CTTGACCTGC      3480

AACTTCTACA GAGGTGATTT CCAAATCTTT TTGGTGGAGG GAGATGCGGT CACTCTGTGC      3540

TTGACCAGTG ATGGTCACTT TCCCAGAAAA AGTCTTGGTC TCACGACTCA AATCTAAAAA      3600

TAAATCATAA TGTTCAGGAA CAAATTGCTT AATGGG                                3636
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(2) INFORMATION FOR SEQ ID NO: 79:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5066 base pairs

634

(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 79:

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TTTGAAACAG GAATAAGTTA ACCAATTCAT ACCAATAGCT AGCAGAATAA AAAGAAACCA       180

AATGCCCCAT AACTTGATAT CTGTCACATT TCTCAAGACG GTATTGAAAA ACAGAACTGA       240

AACAACTGTC CAAGCAAGGC TAAAAAGAGA ATAGAAGGGG ATGTAAAACC AGTAAAAATA       300

ATAAAAAATT GGAAAAAACT TACTATTTCT GTTGGCCTTT TCAATCCAGT TATCAAAATA       360

AAAGTACGGT GCTAAAAGTA AGAATTTAAA CAAATGTTCC ATCACCGACA TCCCCCCTTC       420

TTTTGATAGC GTTTTCTATT ATTTTATTAT ATCAAAAAAA TCCGGAACTG TCATTCCAGA       480

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CATTGACAAA GATGACAAAG GTTGGTGGTT TGGTTGCCAC TTGGGTCGCA TAGAAAATCT       660

TGAGACGTTT TCCTTTGTCT GTCGGTGTTG GGTTGATGGC AATGGCATCC ATGATGACAT       720

CGTTCAAGAC AGCTGATGGA ATACGTGTAT TTTGACTTTC GCTGATTTGC TTAATCATCT       780

CAGGAAGTTT GTGGAGACGT TGCTTGGTTA AAGCTGATAC AAAGATAATC GGTGCGTAAG       840

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TTTCAAGCGT ATCCCACTTG TTGACCACGA TAATCATCCC TTTACCAGCT TCATGGGCAA       960

ATCCTGCGAT ACGCTTGTCG TACTCACGAA TGCCTTCTTC CGCATTGATG ACCATCAAGA      1020

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TCTTCCTCAA AGACAACATT CTCTAGTGGC AGTCTCGGTT TCATATCATG ATGTTGATTT      2040

GGCACACCCA GTGCCATCCC AAAGACAGAA TAGGTGTAGT CAGGTAGGTT AAAGAGCTCT      2100

GCCACTTCTT CAGACTTGTA TCGAACCAAA CCGATAATCA CACCACCATA GCCCAAGCTT      2160

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AATTCATACA AGGCATCTTT CTTCTCTTGA CTTCGTACCA CAATCACAGA GTAGGATTGG      2400

AAATTCTTCC AAGATGATGC CATCTGGGCT GCTGTCAAAA TCTCATTTAA GTCTACTTGG      2460

GGAATTTCTT GCTCTTTAAA CCTGCGCACT GAAGTATGAG CCTTCATCAA TTTAATGGTT      2520

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GTCTTCTACG AATGGTGTTC CCTTCTTCTG CTTGGCGACT ATCGATAACA CTTGACTTGG        5040

TAGCCCCACA TTTTGGACAG GGTACC                                            5066
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637

(2) INFORMATION FOR SEQ ID NO: 80:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 9607 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 80:

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GATGGTGCGG TTACCGTTCT TGACTCACAA TCAGGTGTTG AGCCTCAAAC TGAAACAGTT   1080

TGGCGTCAAG CAACTGAGTA CGGAGTTCCA CGTATCGTAT TTGCCAACAA AATGGACAAA   1140

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638

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639

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GCCTTGGGTG CGCATGAGGT CATCGTTCAG TGGACAGATG ATGTGATTAA CCGTGAGAAA    8340

TTCCTCCATG CCCCGATGGA GCGTTTGGAC AATGTGCCAG AATACAAGAT TGCTGAGATG    8400

AACTATCTCT TGGAGAATAA GGCTAGCCGT CTTGGAGTTC GTTCATCTGA TCCAGGTGCC    8460
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642

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TTGAACGGAG TGGACGCTGA CAAGCTTTCA GCTTCTGCTA AAGCTATGGG ACTTGCCATG      8520

AAGCCTATGC GTATCGCAAC TCAATCTAAC AAGGTTAGCT GGACTGTAGC AGCTGCAGCA      8580

GGACTTGAGT GGGCTAAGAA AGTCTTCCCA AATGCTGCGA GCGACGAAGA AGCAGTTGAT      8640

TTCCTTTGGG ACCAAATTTT CAAAACTTGC CGTGTCTACG AAGCAGATCC TGTTAAGGCT      8700

TGGGAGGAAC ATGCAGCCAT TCTCAAGAGC AAGGCCGATA TGCTTAATAA GGAGCAATTT      8760

TCAGCCCTTC ACTACACAGC GCCAGGAACA GATTTAACAC TTGGTTTGCC AAAGAACCAC      8820

GTTTGGGAAT CAGCTGGTGC TGTCAATGCA CAGGGCGAAG AATTCTTGCC AAAATATGCCA     8880

ACAGAAGAGG TCTTCACAGC GCCTGACTTC CGTCGTGCAG ATGGTTATGT CACTTCTACA     8940

AAACCGCTTA GCTACAACGG AAATATCATT GAAGGCATTA AGGTGACCTT TAAGGATGGA     9000

CAAATCGTAG ATATCACTGC TGAGAAGGGT GATCAGGTTA TGAAAGACCT TGTCTTTGAA     9060

AATGCGGGTG CGCGTGCCTT GGGTGAATGT GCCTTGGTAC CAGATCCAAG TCCAATTTCT     9120

CAGTCAGGCA TTACCTTCTT TAACACCCTT TTCGATGAAA ATGCGTCAAA CCACTTGGCT     9180

ATCGGTGCAG CCTATGCGAC TAGCGTTGTT GATGGAGCGG AGATGAGCGA AGAGGAGCTT     9240

GAAGCTGCAG GGCTTAACCG TTCAGATGTT CACGTAGACT TTATGATTGG TTCTAACCAA     9300

ATGGATATCG ATGGTATTCG TGAGGATGGA ACGCGGGTAC CTCTTTTCCG TAATGGGAAT     9360

TGGGCAAATT AAGGAGATAA TATGTTAGGA AGTATGTTCG TTGGTCTCCT AGTGGGATTT     9420

TTAGCAGGTG CTATGACCAA TCGTGGAGAG CGAATGGGAT GTTTTGGAAA AATGTTTCTC     9480

GGTTGGATCG GAGCCTTTCT AGGTCACTTG CTCTTTGGAA CTTGGGGGCC AGTTTTATCA     9540

GGAACAGCTA TTATCCCAGC GATTTTAGGA GCCATGATTG TTTTAGCTAT TTTTTGGAGA     9600

CGAGGAA                                                                9607
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(2) INFORMATION FOR SEQ ID NO: 81:

       (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 14231 base pairs
           (B) TYPE: nucleic acid
           (C) STRANDEDNESS: double
           (D) TOPOLOGY: linear

       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 81:

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CTACAAGATA ATTCCAGCTA TAACATCCGC TATAATAGTA AGAGCGAGCT CTATGATAAG        60

GCTCATTAGT TTCACCTCCT CTCACGAACC CATAGGAACG TAATCGGTAA CCGATGACAA       120

AAATAGTATA CCACAATACA TTTAGATCAT CAAGGTCACT TAATTCTTGA AATATCAGAT       180

CTAAGAGAAA AATCTTTAAA ATCAGAAAAA CGCATAATAT CAGGTGTGCA AAAACTTGAT       240
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643

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ACTATGCGTT TTATTGTGGG AAGGTTTACT CCATTTTCTC CTGAAATTGA GTTTTTGTCC    300

AGCCTCTGTT TTTAGGGTTG CTAAGAAAAT AATGTCATGT GGTGAATATT TGTAAATCAG    360

TCAGCAGACA GAACGATACT CTTCGAAAAT·CTCTTCACAT CATGTCAGCT TCGTCTTTCC    420

GTATATATGT GACTGACTTC ATCAGTTCTA TCTACAACCT CAAAACAGTG TTTCGAGCTG    480

ACTTGATCAA TTTTCAAATC TGTACTTTGA GCAAGCTGAG ACTAGCTTCC TATTTGATTT    540

TCATTGAATA TCAGAAACCC ATTCTCCATC AAATAATTCG ACTGCGTCTA ATAATTTTTG    600

ATCTGGCACG GTGTCTGAAA TAAAGGTTGT GTATTTGGAG AGGGGATTAA TTTTAAAAAA    660

TCCAGTCTTG TAAAATTTAG AACTATCAAT CAGTAAGATG GTTTCATGGG CTTTGTCAAT    720

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GGAGCTATCT TTAACAGTTT CAGATAGGGT TTGTGCAGTA TGTAAACCAT TTGTAAAAAT    960

AATCAAATTA TCAAGTTCAG AAAGATAGGG ACAGAGTTCG TAGACAGTAG TACTAGAATC   1020

TAGATAGATA CACATACCAG ACCGAATAAA GTCTTTAGCG AGACTAGCGA TTAGTCTTTT   1080

TTGCCTAGTA CTTTCTCCTT CACGTATTTG ATGAGAAAGT TCAATTGTGT TCATAGAGGA   1140

CAGGGTCACG TATCCGTGCT TTCTTTTGAT AAGACCTTGA TTTTCTAAGA AAAATTAAATC   1200

ACGACGTAAG GTACTTGTGC TGGAGAAAGT GATTTCTGCC AGCTCTTTTA CGGCAATTCT   1260

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TTTATCTTGG GATATTGACT TTCTACTAGC TAAAATTCTT GAAAGTATCC GCTTGGCTAA   1680

TACTAGTTAC AAGATTTTAT CTATCGGTAT TGACACATGG GGAGTTGATT TTGGACTGAT   1740

TGATAATGAA GGTAAGCTGT TATTACAACC TGTTCATTAT CGTGATGAAA GAACAAAGGG   1800

AGTGTTAAAG GAAATATCTG AAATGACTGA ATTAGAAAAA CTGTATTCAG AGACAGGAAA   1860

TCAGATTATG GAGATAAATA CCTTGTTTCA ACTCTTTAAG GCACGTCAAG AATCTCCTGA   1920

CTCTTTCTAT AAGACCAATA AGATTCTTTT AATGCCAGAT TTGTTTAATT ATCTCTTGAC   1980
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644

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AGGTAAGTTT GCTACAGAAA AAAGCATTGC TTCAACAACT CAATTATTTG ATCCTAGGAG     2040

TCAAAATTGG AATCAGAATA TCTTAAAACT ATTTGAATTG GATTCATCTT TACTTCCTGA     2100

AATTGTTTCA GAGGGAAATG TTCTTGGAAG GATAAAAGAG GAGTATGGTT TAGGCGATAT     2160

TCCTGTTGTG AATGTTTGTA GTCATGATAC AGCAAGCGCG ATTGTCTCAG TACCTAAGAC     2220

AGAAGGTAGT TTATTTATTT CATCAGGTAC TTGGTCTTTG GTTGGAGTGG AACTTACTTC     2280

ACCGATTCTT ACTACCGAAT CCTTCAGTTA TGGATTTACA AATGAAGTCG GTAAAGATGG     2340

AGTGATTACA TTTCTGAAGA ATTGTACAGG GTTGTGGATC ATAGAGGAAC TAAGACGTTC     2400

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AAAAGAAAAT CTTCCTCTGA TTGATACTGA ATCAACTGAA TTTGCAACAG AATCTGATAT     2520

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ACAACTATTT AAGATTGTTT ATGAAAGCCT AGCTGAAACG TATAGGAAAG CGATAGAGTT     2640

ACTAGAAGAA CTAACTCATA AGGTTTATAA GAGGATATAT GTGATTGGAG GAGGTGCTAG     2700

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TGTGCAGGAA GGGGGGATAA TTGGTGAATT GAAAAATATT TAGTGTTTTG ATATGAGGAG     3000

GACAAGGATG TCAGATGTAA AACAAGAATT AATTAAATAT GGTAAGAAGC TAGTAGAAAC     3060

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GGAATTGATG GCAGAAAAAT TTAAAACATA CGGTCAGAGA AAATAGGGAG GATATTAATG     3660

TTAAAACATA TACCGAAAAA TATTTCTCCA GATTTATTGA AGACTTTAAT GGAAATGGGA     3720

CATGGAGATG AAATAGTATT AGCTGACGCG AATTATCCTT CTGCCTCATG TGCAAATAAG     3780
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645

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CTAATTCGTT GTGATGGTGT AAATATTCCA GAATTATTAG ATTCCATTCT GTATTTAATG    3840

CCATTAGATA GTTACGTCGA TAGTTCAATT CAGTTTATGA ACGTTGTTTC GGGTGATGAT    3900

ATTCCTAAGA TATGGGGTAC CTATAGACAG ATGATTGAAG GTCATGGTAC AGATCTTAAA    3960

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GTTGCTACAG GAGAAACTTC ACTTTATGCT AATATTATCC TTAAGAAAGG AGTAGTTGTT    4080

GAAAGAGAAA ATGTTCAATA GAGGAATTTT AGTTGCCAGT CATGGTAATT TTGCTAGCGG    4140

AGCTCTCATG ACCGCAGAAA TGTTTGTTGG TGAGACAACA AATGATAGAG TTAGGACATT    4200

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TGAACTGTTA GACTCAAATC AAGAGGTTAT CGTTTTGACT GACTTGATTG GAGGAAGTCC    4320

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TCAAAGATCG GTTTTTATCA TTATTCAAGT TTGGTTTTAA TCACGTTATT TAAAAATTGTA   5460

CCAATTTTCC TAGCTATTAT GCTTGGAGGG GAATATGTGG CAGACTTGTT TGCTAAGGTT    5520
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646

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CCACCAATCG TTATGCAGGG ACTTAACTCT GCAGGTGCTT TACTACCTTC AATTGGTTTT    5580

GGTATGCTTT TAAATATGAT GCTCAAGAAA AATATGTGGG TATTCTTGTT GATTGGATTC    5640

ATTTGTTCTG TGTATGGAGG AATGTCAACC ATTGGGATCT CACTAGTTGG TATTGCGGTA    5700

GCATACTTCT ACGATATGAT TGGAAGCAAA CCACAAGAAA CAACTTCAAG TAGTGATGTT    5760

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GTTACGGATG GTGAAGTAAG TGTATTGGGA GAGACAATAG TTATTCGGAA TGCTACAGAG    7320
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647

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CAGGGAGAAT TTAGTAGTAT TGATTACTTT ACAGAAAAAG ATGAACATGT AAAAAAATAT   7440

CAGGAGCAAT TTAATAGAGT TGATTTTAAA CTAGACTATA GTAAAGGTTG TCTTAGCATT   7500

CCAACGAATC TACTTCTTGA AAACACTAAA AAGTATAGTA ACTACTTGAC TAACTTGTTA   7560

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TTATGGTGGG GGAACACATT GAAGGGAGCA TGGGAAGCTA TTCCTGAAGA TGTAAAGCCA      9180

TATGCAGCGA TTGAACTTCA TCCTGCAAAA GTCTGTAAAC CAACAAGTTG TATTCCACGA      9240

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TTAGATGAAC AATTCCAAAA GTATAGTGTG TTAAAAGGTG TTTTAAATAT TGAGAATTAT      9420

TGGATTTACA ATAACCAGTT AGCTCCGCAT AGTGCTAAAT ATTTGGAAGT TTGTGCCAAA      9480

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AATAATACAA AGTCGTTATC GTTAGATTTG ACGCCACATA CTTACGCTGT TGTTAAAGAA      10380

AATCCAAATA ATTTACATAT TTTATTGAAT AATTACAGGA CAGATAAGAC AGCTATGTGG      10440

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CATAATGGAA TGGTAGAGAT GTCTATAAAT ACTGAGGGGA CAGGTCCAGT CTCTTTCCCA      10740

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AGTTCTGTAG ATTACAATGG AGACCCTAAT AGAGCTGTGG ATGGTAACAG AAATGGTAAT      10860
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649

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TTTAACTCTG GTTCGGTAAC ACACACTAGG GCAGATAATC CCTCTTGGTG GGAAGTCGAT    10920

TTGAAAAAAA TGGATAAAGT TGGGCTTGTT AAAATTTATA ATCGCACAGA TGCTGAGACT    10980

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AAACATGTTA ATAATTTGTC GGGTGAATCT GTTAGTCTAG ATTTCAAAGA AAAAGGAGCA    11100

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TATGGATATG TCTCCAGATA TTCCTCATGC TATTTGGGGA TTTAATGGGA CAGAACGCCC    12480

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TGGGATTTAT GGAAGAGATG TTCAGGAAGC TAGTGACACA GATATTCCAG AAGATGTCAA    12600
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650

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AGAAAAACTT TTACGCTATG CGCGTGCAGC TCTTGCAACT GGCTTGATGA GAGACACTGC    12660

TTACCTATCA ATGGGTAGTG TTTCGATGGG GATTGGTGGT TCTATTGTAA ATCCGGATTT    12720

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AACTTTCCTC AATACTCAGT TTGACTGGAA TGGTATTCGA AAACCATTTG TATTTGCGAC    13140

AGAGAATGAT TCACTAAATG GTGTGTCTAT GCTCTTTAAT TATCTATTAA CAAATACTCC  . 13200

ACAAATCTTT GCTGATGTGC GTACTTATTG GAGCCCAGAG GCTGTTAAAC GTGTAACGGG    13260

ACATACTTTA GAGGGTCGTG CTGCAGCTGG CTTCTTACAT CTAATCAACT CTGGTTCTTG    13320

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CTATGACGTC ATGAATAATT GGGGAGCTAA TCACGGAGCC ATAACATATG GACACATTGG    13740

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TAAATGAAGT GGGTCCTTAT ATCAAGGAAC TTGGCTATAA AAAGGCACTT TTGGTGACAG    14160

ATAAGTACAT CGAAGGCAGT GATATTTTAC CTAAGACTTT AAAACCACTG GATACAGAAG    14220

GAATCGAATA T                                                        14231
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(2) INFORMATION FOR SEQ ID NO: 82:

    (i) SEQUENCE CHARACTERISTICS:

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            (A) LENGTH: 16995 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 82:

   AGTTCTCTTA ACTTTTTTAG GATGGCATTC TCCGCTCTCA GGTACTCATT TTCTGCTgAA      60

   GACGTTCTAA TTCTGTCCTC TCTTCAGGTC TCGTTTTTGG CTTACGTCCC ATTTTAGGTA     120

   CTCTCCCTCT TGTTTTCTCA ACAATAGTAT ACCCGTTTTT CCTGTATTGT GCTAGCCAGT     180

   TAAGAAGTAT CGTACGACTT GGGAGACCGT ATTCAAGAGA AACTCTATCT TTAGTCCAGC     240

   CTTCATGTCA GACTTTATTA CTCATTTCTT GTTTTAAATC AGGAGAATAG TAACGATTTT     300

   TTCCTTTTTT GACGAACTCT ATTCCGTAAC GATCAATCAA TTTAATCATG TACCTAATAT     360

   TAGAATTGCT TATCCCAAAT TTATTTGAAA GCTTCTCTAA GCTATATCCT TGTTTTCTAA     420

   GTTCATAGAT CTGAACTTTA TCATCATAAG TTAGTTTCAT AATAAAAACA CCCCAAAAGT     480

   TAGATTTTTT CTGTCTAACT TTTGGGGTGT AGTTCATGTA CACCTGATAT GATGCGTTTT     540

   ATAATTTTTA AGCCTTTTTG CCCAGCCTCG TCAAAAGTAA TGTTTTGACA CAAAATCTGT     600

   GACAAAACTT TAGTTTTAAA GGTTTTTAAC TTTGTATATA CTAGTTTTAA GAAAAGGAGG     660

   ATGATCTAAT GGAAGAAAAA GTATCATTGA AAGTCAGGGT TCAAAAACTA GGGACATCGC     720

   TTTCAAATAT GGTTATGCCC AATATTGGAG CATTTATTGC TTGGGGAGTA TTGACTGCCC     780

   TCTTTATCGC TGATGGCTAT CTGCCAAATG AACAGTTAGC TACTGTTGTT GGTCCTATGT     840

   TAACGTATTT ATTGCCAATC CTGATTGGTT ACACAGGTGG ATATATGATC CATGGCCAAC     900

   GTGGTGCCGT TGTAGGAGCT ATTGCTACTG TTGGTGCAAT CACAGGTTCT AGTGTTCCTA     960

   TGTTTATCGG AGCTATGGTA ATGGGCCCAC TGGGAGGATG GACTATCAAG AAATTTGATG    1020

   AGAAGTTCCA GGAAAAAATT CGTCCCGGAT TTGAAATGTT AGTTAATAAC TTCTCAGCTG    1080

   GTCTCGTTGG TTTTGCATTA TTGCTTTTGG CTTTCTACGC AATCGGTCCA GTCGTATCGA    1140

   CTCTTACTGG AGCTGTTGGG AATGGTGTTG AGGCTATTGT CAATGCTCGC CTCCTTCCTA    1200

   TGGCTAATAT TATCATCGAA CCGGCTAAAG TCCTTTTCCT CAATAATGCC CTCAATCATG    1260

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   TATTGGAAGC TAATCCTGGA CCAGGTCTGG GAATTCTATT AGCTTATGCT GTATTCGGTA    1380

   AAGGTTCTGC TAAATCTTCT TCTTGGGGGG CAATGGTTAT TCATTTCTTC GGAGGGATTC    1440

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TTACTCTAAG CAGACTGCAC AATTTTATAG TATTCAGGAA ATTATCTATT TTGCGAGCAT    3240

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CGTCCCTATC CTTTTTCAGG GTGAAAATTT GCCAGAATCT ATCCAGATTT TAGTTGAAAG      3480
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AAACATTCTG TTCATTTTGG TGCCGGTAAT ATCGGTCGTG GTTTTATAGG TGAAATTCTA      4980
TTTAAAAATG GTTTCCATAT TGATTTTGTG GATGTCAATA ATCAGATAAT TCATGCTCTG      5040
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ACTAATGTGG CTGGCATTAA TAGCAAAGAA CATCCTGAGC AAGTCATTGA AGCGATTCAA        5160

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TGAGTGTTTT AGTTAGGAAA AAGGCTTGTT GTCTATAATT GTCTGCATTA GTCTAGATTT        6780

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655

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657

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CCATCTGCAA CCTCAAAACA GTATTTTGAG CTGACTTCGT CAGTTCTATC CACAACCTCA    10680

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658

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TGGAGGAAAT CGCTAAGGTT GCGACAGAAA AATACCAAGC AATTAAAGAA CAAATGCCTA    12540

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GCCGTGAGAT TGAATTTGAC GATAAGGAGC AAGAGCTAGA AGAACTCCGT CACAAGCTTG    12660

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659

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660

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GATTTCCATG ACAGGAACCT TTATTGATAC CCTCATCATT TGTACTCTAA CTGGTTTGAC    16980

CATCTTGGTA ACTGG                                                     16995
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(2) INFORMATION FOR SEQ ID NO: 83:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 28473 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 83:

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CCGGGGCTTT TGTAGTATAA TAGAGATACG TTTTGAAAGT AGGAGGTATC TATGGACTTA           60
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661

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ACTAAGCGCT TTAATAAACA GTTAGATAAA ATTCAAGTTT CGTTGATTCG TCAGTTTGAC    120

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ACGCCAGACC ATGTCAAGGA GGCGGGCAAG CGAGCGATTG ATCAGAACCA ATCCTACTAT    240

ACAGGGATGA GTGGTCTGCT GACTCTACGT CAGGCAGCCA GTGACTTTGT TAAGGAAAAG    300

TACCAACTGG ACTATGCTCC TGAAAATGAA ATCTTGGTTA CAATTGGGGC GACAGAGGCT    360

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GAGCATTATC ATGAGGATAA GAGACGTTGT CATCTCAATC CCAATATCCC CTATCTGCTC   1800
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662

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663

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664

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665

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666

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AAAGGGCAAA AAGGGTCTTC AGCAATGCCT CACAAACGCA ACCCAATCGG TTCTGAAAAT    22980

ATGACTGGTC TGGCGCGTGT CATTCGTGGT CACATGATTA CGGCTTATGA AAACGTCGCT    23040
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674

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CTCTGGCATG AACGCGATAT TTCTCACTCA TCAGCTGAGC GTATCATCAC ACCAGATACG        23100

ACCATTTTGA TTGACTACAT GCTCAACCGT TTTGGAAATA TCGTCAAGAA CTTGACAGTC        23160

TTCCCAGAAA ATATGATCCG AAACATGAAC TCGACTTTTG GTCTTATCTT TAGCCAACGG        23220

GCTATGTTGA CATTGATTGA AAAAGGCATG ACCCGTGAGC AAGCCTATGA CTTGGTGCAA        23280

CAAAAACAGC CTACTCTTGG GACAACCAAG TAGACTTTAA ACCACTTCTT GAGGCAGATT        23340

CAGAAGTAAC ATCACGTCTC ACACAAGAAG AAATCGATGA AATCTTCAAC CCAGTTTATT        23400

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ACGCCCTTAG TAATGACTTG TGTTTTTCCT TTGAGTAAGA GTGGATTTTC ACAAGTCACT        23940

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675

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AGCCCCTGAT CGAGATTGTA CCAGCCTTGG CCATCAGCGT TTCGTCCAAG AACGTAGTAC    26040

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676

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CCATCTTTGG CAAGGTCGTT TAAGGCGCGA ACAACTGTGA TAGAGCTGAC ATCGTACATT      28380
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677

GAAATGAGTT CTGCTTCAGT GTAAAATTTA TCTCCACTGC TAAACTGCCC AGAGATGATT   28440

TTATTTTTTA ATTCGTCTTT TATGTATTGA TGG   28473

(2) INFORMATION FOR SEQ ID NO: 84:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6749 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double .
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 84:

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AAAACTAGGT CGAAACTTAA CAGCAGAAGC GCGTGAGGGC AAGTTGGATC CTGTTATCGG   240

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TGTTTTGGTC GGAGATGCAG GTGTTGGTAA GACAGCAGTT GTCGAAGGTC TAGCGCAAGC   360

CATTGTGAAC GGAGATGTTC CTGCTGCTAT CAAGAACAAG GAAATTATTT CTATTGATAT   420

CTCAGGTCTT GAGGCTGGTA CTCAATACCG TGGTAGCTTT GAAGAAAATG TCCAAAACTT   480

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CTTGGCGGCT CAACATCCAG TAACAGATGT GCATGCTGTT GAACGAGAAA TCGAAACGGA   960

AAAAGACAAG CAAGAAAAAG CAGTTGAAGC AGAAGATTTT GAAGCAGCTC TAAACTATAA   1020

AACACGCATT GCAGAATTGG AAAGGAAAAT CGAAAACCAC ACAGAAGATA TGAAAGTGAC   1080

TGCAAGTGTC AACGATGTGG CTGAATCTGT GGAACGAATG ACAGGTATCC CAGTATCGCA   1140

AATGGAAGCT TCAGATATCG AACGTTTGAA AGATATGGCT CATCGCTTGC AAGACAAGGT   1200

GATTGGTCAA GATAAGGCCG TAGAAGTTGT AGCTCGTGCT ATCCGTCGTA ACCGTGCTGG   1260

678

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ATTCTTGTCT TCATCAGTCA AGATGATGGT TGAGTGGGCT TCGCTTCCTT TGAGGTTGCC      3060
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679

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680

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CTCCCTTGGT GCGTCACACG ATTTTTTCAT CTCGACTGTT CTTTAATGCA TCATTAACGA    6600
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681

CGCTTTTCTT CTAGGTGGTT CATAAGGAAC AGGAAGATTC AGGTTGACTT TTCTAATCCT   6660

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(2) INFORMATION FOR SEQ ID NO: 85:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 1842 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 85:

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ATATTGCTTC TCCTTTAGTT AGATAAATAA TGTGTTTGCG CCATGTAAAT CAATTGTTTC   240

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CAAAGACAAC TCCAACCGAT CTTTTAAAAC TGAGTAAACC ACCTTAACCT CCAGTTTCAT   1080

ATTCTTATAC CGTTCACTCT CAAATAAAAG TTTGGGGAGC TTATAATAAC GCTCTGATGT   1140

CTGATATTGA TTAGCGGTAA TACGCTTCAT TATTGTCCCT CCAAGACTAA AATTCCAACA   1200

682

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TTTTTCCTCG CTAGATTTCC TCAAAAGGGC·AGACTCCTCC CTTGGTGCGT CACACGATTT     1440

TTTCATCTCG ACTGTTCTTT AATGCATCAT TAACGACGCT TTTCTTCTAG GTGGTTCATA     1500

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GGAATAGGCA TAGAGACTAG ACAATTTGAG GAGCTGCTTG CGTCCTGTTC GAACACATTT     1620

TCCCACCACG TGAAGAAAAA GATGGCGGAA GCGTTTGATT GTTAAAGTTT GGAAGTCACC     1680

TCCAGCTAGA TGTTTGAGAA AAAGATAGAG ATTGTAGGCG ATACAGCTCA TCATCATACG     1740

AACTTCGTTT TTGATTAAGG TTGAACTATC CGTTTTATCG CCAAAAAATC CCTCCTTCAT     1800

CTCCTTGATG AAATTCTCGG CTTGACCACG TCCACGATAA AG                        1842
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(2) INFORMATION FOR SEQ ID NO: 86:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 19390 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 86:

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TCATCTTTAT CTCCTCGAAA TTTTCTAATA TAGCCATTAT AACAGAATTT TGTGAAAATT      60

CCTATTATAG TAAATCACTA TTTCAGTATA AAAAGAAAAA ACGAATCAGA CGATTCGCTC     120

TTCTTAAAAT CTGAAAATAG CTTTCCAGAA AGGATTAGCC GATTTTTTGC AGATTGAGCA     180

CTGCATCGTG ACTCATCAAG ACTTGACCAT ACTCTTGTAA GACTGAGCGA CTGATATCAC     240

TATCGTCTGC AAACTCGCGC ATACGGGCCA ACAGCCAAGC TGGATATGGG CTTGGATGAT     300

TTTCAATATC CACTAAAATG GTCAAATAAT AGCGCTCGTT CATTTTGTAG AGTTCAGAAG     360

TTTCCATTTC AAAAGTCACT GTCTTGGCAA AAGCTACCAA GTCAGCCAAC TTAGCAAAAG     420

AAAGGATGTA GTAGATGTAA GGTTCTTTCT TACTCTCAGC TTCTTGTTCA GCCTGCTCTT     480

GCTCTTCTTC CTTGACTTCA ACTTGCTCAA GAGATTGAAT GGCTTCGATA TCATCCTTGG     540

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ATTCTTCCAT ATCTGGCAAA TCCGATAAGT CTTCAAAATC TAGATTTTGG TCAATCTTTG     660

ACTTGGTCAC AAAGACATCT ACCTTATCAG GTTTTGGAGT CACACGGAAG CTCAACATGC     720

CTGTATCCAG AAAGCTATCA GGCATCTCTA GCTCATCCAA GATAGCATAA AAGAACTCTT     780
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683

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CTGTTTTTTC TTGAGGAACG AGAAAGTCAG CAATCTCCAT TCCACGATCC ATCAAATCCT     840

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ACCTCATACT TTCAGTTCTA TCTATTATAC TAGATTTTTA CGATTTTATC AAAAGAAGGC     960

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684

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685

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686

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687

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688

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689

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690

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GAAACTGGGT GAATGGTCGC TGAACCAAGC TCTGGCACCA AGACCAATTT CAAGGTGTTA    13500

CCACGCGCTT TCTTGTCATG AGTAAGAGCC TGATAAAGCT TGCCAACTTC CCAATTTTCA    13560

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GGCATGAGGC CTTTTTCCTC AGCAACCTTG GAAATCTGTA CCATTCCCAT GGCAACAGCC    13680

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ACGGAACGAA CAAAGACCGA AATCTGACTG ACGCCATCCA AAATAGCCTG TGCCAAGATT    14940
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CCAATATGCG TGACAGGTAA TAATGATAGC CAAAAATAGC AAGAGCAAGC AAGACGATAA       17940

GAGCTCCTAC TCCCAAGCTG ATGGCAAGGA TAGGGGAGAG AGACTGAACC AAGAATATGC       18000

TCCCAATTAC AAGGGCCATC AGGATTGCAC TATAAATAAA CAATAAAACT ATGGCGACTA       18060

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AATGCAGGCT GGTGATATTG TTATTGACAA CTGCTATAAA GAGAGCTATA AAAAACAAGG       18420

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693

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AACAGATGAT CATCAAGAGA CTGGAAAAAA TGTAAGAACT TAAGACTCTA GCGGAAACAT        19380

TTACTTTTTT                                                               19390
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(2) INFORMATION FOR SEQ ID NO: 87:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 18436 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 87:

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CCGAGCGTCG TTACAGACTT TATCAAGATT GGACGCAAGA AGAAATTCAA CATATAAAGG          60

AAAATATGGC ACAATCTCCA TGGCATACTC ATTACCATGT TGAGCCAAAA ACAGGACTTC         120

TCAACGACCC AAATGGCTTT TCTTACTTTG ATGGCAAGTG GATCCTCTTT TACCAGAATT         180

TTCCTTTTGG TGCAGCCCAC GGTTTAAAAT CTTGGGCACA GCTAGAAAGT GATGATTTGA         240

TTCACTTTAA AGAAACTGGA ATCAAAGTTT TACCAGATAC TCCATTAGAT AGCCACGGTG         300

CCTACTCTGG TTCTGCCATG CAATTTGGCG ATAACTTATT CCTATTTTAT ACAGGAAATG         360

TTCGCGATAA AAACTGGATC CGTCACCCAT ACCAGATCGG TGCTTTGATG GACAAGGAGG         420
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694

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GTAAGATTAC AAAGATTGAC AAGATCTTGA TTGACCAGCC AGCAGACTCT ACTGACCACT       480

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ACTTGGAGAA AAAAGGTTTC GTTCGTCTCT ACAAGGCTGT CAATAACGAC TACACAAACT       600

GGCAAGCAGT TGGCGACCTT GACTTTGCTA ACGACCGTAC TGCCTACATG ATGGAATGTC       660

CTAATTTGGT CTTTGTAGAG GAACAACCTG TCCTTCTCTA CTGTCCACAA GGATTGGATA       720

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ACCCTAAAAA TGCCAAAATG GTAGATGTGT CTCAACTTCA AAACATGGAT TACGGTTTCG       840

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TTGGTTTGCC AGATGTTTCT TACCCATCTG ACCGTTTTGA CCACCAAGGA ACCTTCTCTT       960

TGGTCAAGGA ACTCACTATC AAAGACGACA AGCTCTACCA GTATCCAGTC GCTGCTATTA      1020

AGGACCTTCG TGCTTCTGAA GAAGCCTTCT CAAACCGTTC CCAAACCAAG AACACTTACG      1080

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ACCTTGGTCA AGACAGGTGC CCAGTCTATC ATCATGATTA CAGGGAATGA CAATTCTAAT      1980

TCGCCAACCG GACTGCGCCA CGCTGGTTTT GCATCCGTAC TCCCAAAAGC TCCTATTATC      2040

AATGTTTCCA GTGACTTTTC TCCCGTCAGA AAAGAAATGG AAATCAAGAA TATCTTGACC      2100

CGGGAAAAAC CAGATGCCAT TTTTGCTTCG GATGATTTGA CAGCTATTCT GGTCATTAAA      2160

ATCGCTCAAG AATTGGGCAT TTCTGTCCCA AAAGAGCTCA AGGTCATCGG CTATGATGGG      2220
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695

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ATTGCTTGTC TCACTATTGA TCTTCTCTTG CAAAAGATTG AAGGCAAGGA AGTCGCCACA   2340

ACTGGTTACT TCTTACCAGT TACGCTATTA CCAGGAAAAA GTATTTAAAC ACAAGAAAAC   2400

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TCCTTCAACC AATTCACCAC TGAAGAACTC AGCCACAGCT CCACTTCCGT AACTATAAAG   3960

696

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GGCGATTTTA TCCCCAGCTT TCAAGCTATC TGTATTTTCC AAGAGAGACA AAAGTCCAAG    4020

GAAAAGTGAA CCTGTGTAGA TATTCCCCAC CTTTTGACTG TAGAGAATAG ACTGGTCAAA    4080

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697

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ACCTGCAGGC GCTGTCGTCA CTTCTACAAC TTCTATATTA GCTTCCTTAA TCCCAACAAT    7500
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698

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ACTTGTAACT TTTTTAGCTA CTGTCAAGAC AATTTGAGTA GGTTTACTCA CATCATAAGT    7620

CGTTCCGGCA CCTGGACTTT GTTTCATAAT CGTTCCTGGT TCGCTTTCGC TGGACTCTTC    7680

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TGGAACTTTT TTCTCTTTTA ATTCCGCAAT GACATCAGAG GATTTCCGAC CGACATAATT    7980

ACTAATTTGG AAAGATTGCT TGCCTGATGA GACAACCAAA TTGATTTTCG TTCCTTCTTT    8040

TCGACCAGTT CCAGCGCCAG GATCTGTACG GATAATCCGC CCTTCTTCCA CCTTTTCACT    8100

AGCCTCTGTC TTCTCCTCAC CAATCTCAAA ATTGGCTTTT TTGAGCGTTG CCTTGGCCTC    8160

TGCAACTGTC TGACCTGCCA CATCTGGAAT GGCAATGGTT GCAGGAGTTC TGGATAGTAT    8220

CCAAATAAGA GAAGCTGCCA CCAATACAAG GCTGGCCAAC AAAATCAGGT AACGCATCTT    8280

AAATCTATGT TTTTTCGGTG CTTGTGGTTG GTAAGTTTCC TCTGTCACAG CCTGGCTTGG    8340

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CTGAGGTACA GATGGATTTT CTGCAATAAC GGACGGCAGG GGTTCTGGA AATGCTGGAG     8640

GGCAATGGTC ACCGCGCTAT CCCCGTCATA AGGGATATGG CCTGTCAGCA TCTCATAGAA    8700

AATAATCCCC ATGGCATAGA TATCACTCTG CACAGTCGCC TTCGAACCAC GCGCCTGCTC    8760

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CTCGCCAATA TCTGTTATCC GAACGATATG AGGATGGTCT AGATCTGCCA TAGCTCTCGC    9120

TTCACGCTGA AAACGAGCTA CAGCTATCGG GTCCGTCTGG TAGTTGGTCC TCAGAACCTT    9180

CACTGCCACT TCTTCCCCAT CTAAGATTAA GTCTTTGGCT AGGTAGACAT CCGCCATACC    9240

TCCTCGACCA ATCTGTTTGA CAATCCGATA GCGTCCGGCA AAAATCTTGC CGATTTGGAT    9300
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699

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CATTCTGCAT CCTCCTCGTT CATAGAAACA AGGGCAACCG TAATGTTGTC TAAACCTCCT       9360

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ACAATATCAC GAATCTCACT GCCTGAAATC ATGTTGGTCA AGCCGTCACT ATTGAGCAAG       9480

AGATAGTCAC CTGACTCAAG GATAACTGTC CCAAAATCAG GCTGAATTTC ATCTTTTTGC       9540

CCAATAGACT .GGGTGATAAT ATTTTTTTGC GGATGAGCTT CTGCCTCTTC TGGTGTCAAT       9600

TGACCAGCCT TGAGCAATTC ATTAACCAAG GAATGATCGC TCGTCAACTG ATGGTATTCT       9660

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.GTTAATAATG AAATTTCCAT GTGTCAGTTC CTTCCTAATC CGATATCTTG CGAAATTGAC      10080

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CTTCACGCAA GATACGGCGA AGGACAGCGT TGACCAATTT TTCACTGCCT TTTTTACGGA      11040
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GTTCTCTCAG AAGAACGGAA ATCAGGCAGA TTCAAGGCCG TATCCGCATT TAGAACTCCG    12840
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701

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TCCAACTTTT TCTTGGCACG TGTAGAAATC TCAACACCTT CTAATTGAGC ATGGTCAACC     14160

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TCTCCATCTG ATTGGGACTT CAAACCAAGA ACAATCCCTT GAATCAGGCG ATTACCCTTA     14580
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702

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GCCATCTTCT CACCTCCTCC TTGTCAGTAC ATTCTTGCAA TAGAAAAAAT AAGATTGAGT    14760

CCCCCCAACC TTAAATTTTT TCACCATCTT CTTTTTCTTT AGCAATTTGC TCTTTGATTT    14820

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703

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TGATACCAGC CAACTTAGCA ACCTCAATCG AATGGCGCAA AACATTTTGT CCATATGAAG    16440

TACGGAACTG CAAACGTCCC ATAATCTTCA TCAAGTCTGG ATGAAGGTTT GGCGCACCAA    16500

TTTCATAGGC AGCAGCCTCA CCGTATTCAC GAATCTTATT GTCAATCTCT TGACGGTTTT    16560

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AGGACTACAA TGTCCTCATC TGGATTTTTA TTGACCACCG TCAAAGGCTC AAATTCATCA    18120
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704

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TTTACCTTCT TCATGTAGTC CTTTAAATGA TTTCGGAATG TTGAGTAAAG GACTGCTTCC   18180

ATAACCATAC CTCGTTTTAG CTCTTTTCCA CTATTATACA CGAAAAGAAA GAAATTGTCA   18240

GGAACTTGTA CAAGATTTTC TTTTCTATCT ATTTATACTC AATGAAAATC AAAGAGCAAA   18300

CTAGGAAACT AGCCGCAGGC TGTACTTGAG TACGGCAAGG CGACGTTGAC GCGATTTGAA   18360

TTTGATTTTC GAAGAGTATT ATTCGTAAAA AATCTCAAAA AGCCTACCTT TCGGTAGACT   18420

TAGTTTGTTT CTATTC                                                   18436
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(2) INFORMATION FOR SEQ ID NO: 88:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 7001 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 88:

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AGAAATTTTG AATGAAGATT ATCCTATTTC AGAAATCAAT TCCACCATTA CCAATATGAT     180

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CGATTGTATG GCTATAGGAC AATACCTTTT TAATCCACAC AATACCCCCG ATAACTTTAT     420

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ACACGCCCAA TTATTATTTA AAAATTCCCA ACTAACTGTA CTAAAAAGCC TTGTAAAGAC     660

TGAAAAAGAC ATTCATTTAG ACACCCTTTT AACGGCTTAT AATTTAGGCG ACTCCGCTTT     720

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TATCGTCGCT TTTTTCATAG AACATAGCAA TGTATTACAA GATATTATTT CACCTTAATA    1020

TATTAGAAAT CTATAGACCT GTTTAAATCA ACTATAACCT GTAGTAGATA TCTCGTATTT    1080
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705

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AGACAATATG AAAACAAGAC GACTTCCATA TAGGAAACCG CCTTCTCGCT ATGTTGAGTG      1140

ATTTATATTA AAATAACTTT TCTTCTAGCT GCATTTTATT ATTATAAAAA CATTCATCAT      1200

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706

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TCACTGTTCA AAAATGATGG TCGCTGAAAC TTCTATCGTC AAGAAGAATC ATCAAATTCC        3300

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TGCTCATCAG CTGGCCATTT CAACTTCAAC TGTCATTCGC AAGCTCAATG ATTCTCACTT        3420

TGAGCATGAT TTTTCGCGTC TTCCTGAGAT TATGTCCTGG GACGTTGAAA CAGTCCGGGG        3480·

AGTGACTGTT TCAATCGGGA GATGGAGATG AGCTTTATTG CGCAAGATTT TGAAAAGCTC        3540

GATATCATCA CTGTTCTTGA AGGTAGAACA CAAGCTGTCA TCCGAGATCA CTTTCTTAAA        3600

TATGATAGAG CCGTCCGATG TCGCGTCAAA ATTATTACTA TGGATATGTT TAGTCCTTAC        3660

TATGACTTAG CTAGACAACT TTTCCCGTGT GCTAAAATCG TTCTTGATCG CTTTCACATT        3720

GTACAACATC TTAGCCGTGC TATGAGTCGT GTGCGTGTCC AAATCATGAA TCAGTTTCAT        3780

CGAAAATCCC ATGAATACAA GGCTATCAAG CGCTACTGGA AACTCATTCA ACAGGATAGC        3840

CGTAAACTCA GCGATAAACA TTTTTATCGC CCTACTTTTC GTATGCATTT AACCAATAAA        3900

GAGATTTTAG ACAAGCTTTT GAGCTATTCA CAAGACTTGA AACATCACTA TCAGCTCTAT        3960

CAACTCTTGC TGTTTCACTT TCAGAATAAG GAACCGGAGA AATTTTTCGA ACTTATCGAG        4020

GACAATCTTA AGCAGGTTCA TCCTATTTTT CAGACTGTCT TTAAAACCTT CCTCAAAGAT        4080

AAAGAAAAGG TTATCAACGC CCTTCAACTA CACTATTCTA ATGCCAAACT GGAAGCGACC        4140

AATAATCTCA TCAAACTTAT CAAGCGCAAT GCCTTTGGTT TTCGAAACTT TGAAAACTTC        4200

AAAAAACGGA TTTTTATCGC TCTGAATATC AAAAAAGAAA GGACAAAATT TGTCCTTTCT        4260

CGAGCTTAGC TTTTTTTCAA CCCCACTACAG TTGACAAAGA GCCGGAAAAA GGAACAGCCT        4320

TAGCTTTCCT TTCATTTCTT TTTATTTCCC TCGTAGTAAA CGTGCTAGCT TCCACAAAAC        4380

AAACAGGATT CCCAGAAATG CCAGTACCAC TAGCCCACGG TACAACCATT GAGAGGTTGC        4440

AACACGCGAT ACAGATTGTC CTTCTTTCGT AAAAGCAACC CTCGCAACTG CAGCTGTTTG        4500

TGGATCTGAT TTTTGATAAA CAGCGACTCG TTCAAAATTC ACTAATAAGC GTTTATTAAA        4560

GGTAGGAATC GGATCGCAGG TTATCAAGGT CATGATATTT TTAGAGCTAA CCGATTCTAA        4620
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707

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TTTTTCCCAT TCCGACGGTA AAATAATCTC TGTGTCCATC ATCTGATATT CTACAATTTC    4680

CTGGCCATTA TCATAATAAA GAGCATCTCC AACTTTTAGC TGATCCAAAT GGCGGAAAAA    4740

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AGGCAGCGGT GTACCATCCA CATGAGCCAA GCCCATCCCT AAATGATGAT AATCTGCTCC    4860

CAAATAAACC GGCTCCATGA TTTCCAAACT TGGAATAGAC AAGTAACCAT AGACTGCATC    4920

AGGGTCGTCA GACACTTGGT AATTGACCTC ATATCCCTCC GCCAAAAAAG GATCTACAAT    4980

GCGATTTTGC GAAGCCAAGC GTTGATTGTA GGCGAGAGAA TGGTTCTGTT GTTCTTGGTA    5040

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CAACACCATC TGTCCAAAAC AATAAATAGG AATCAAACAG GCTACCAACA TCAACAAGTA    5160

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CAATTGGTGC CGTATACGGA ATCCGCTTCC CACGTACCAA CAGACGATGA CTGTTAATCA    5400

TATACGGTGT ACAAGTCAAC AAGGTCGCAT AATCTTCCCC ATGTTGAATC AAGACAGGCT    5460

CAAAGTCATT CGGCTCCACC GTCACTATCT GATCCACTTG GTAGGCCAAC ACCTGATCTA    5520

AAACGTGAAG ATAAAAGATA TCCCCTTTTT TCATCTTATC CAATTGACTG AACAATTCTG    5580

CCGTTGGCAA TCCTCTGTGA GCAGTGATCA CTGTATGGGT ATTTTCACCT CCAACAGGCA    5640

GCGAAGCCCC TTCTAACAGC CCTGCCCCTT TCTGAAGAAT GTCCTCACTC GTTCCGACAT    5700

ACATCGGAAT TTCCTGATCA ATCGCAGGAA TTTCCACATA GCCAATCCGC TCATGGACCT    5760

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GTTCTGCCTT ATCCATCTGG GAAACCGTCT CATCAAACTC TTTAATAACC TCGTTTGACT    5940

CAATACGATA ATAATAACGA GACACCAATG GATATATCGC AACGGCGAAT CCTACTAAGA    6000

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TACTGTTGTC CATCCTCCAC CTTCACTTCC TTCCTTGCTG CTTTCAGCGC CTTCAAAGCC    6120

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AAACCAACTG CCACATAAAA CAGGTAGCGA TAGAGATGAC TGAGTTTGTT TGCTGCAATA    6240

AATTCTTCCT CAACCTCTGC TACGTACGGT ATCCGATGCC CCCGAACCAA TAGACGATGG    6300

GTATTGATCA TGTATGGCGT ACAAGTCAGC AAGGTCACAT AATCATGACC TGGTACAATC    6360
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708

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AATAAATCAT CAAAGTTCGT CGGCTCAATC ACCTTTACTT GATCCACTTG ATAGGCCATC      6420

ACTTCCTTGA TATTGTGCAC ATAAAACTTA TCCCCAACTT TAAGTTTGGT CAAATCCGTA      6480

AACATCTTAG CTGTTGGCAA ACCTGTATGT GCCGTAATCA CCGCATGGGG CGAATTGCCT      6540

CCGATCGGCA GAGAAGTTCC CTCTAGATGC CCAGCCCCTT GCTGCAATAC CTCTTCAGCA      6600

GTACCAGCAT AAACCGGCAA ATCCACGTCA ATAACGGGGA TTTCCACATG CCCCATCCGC      6660

TCATGGATTT CTAACATACG TGCATACTCT GCTCGCCCTT TTTTCTTCAT TTCTTCCGAC      6720

CAAGGATCGC CACTCACTAC ATTATTCAAA GAGTCATTGA AGGCTTGTGC CAATTTCATT      6780

CGTTCATCAA TGTCAGCCTC ATCCAACGTT GCTTTTTCCT TATCAAAGTC AGCAATTTGT      6840

TGATTTGATT CCACTCGATA ATACAAGCGA GACACCAGCG GATACGCCAT TACCGCCATT      6900

CCAATGAAAA ATACCACTCC TAATAGGAGA TTATTTCGTT TTTGCTTTTT TGTTTTTACC      6960

ATTTTTATCA GCATCCCTTT ATCTTCAAAC TTCAGGGTAT C                          7001
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(2) INFORMATION FOR SEQ ID NO: 89:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 10411 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 89:

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GAGGGAGCTT AAGAAGTTAC CACCGTCCTC TAGCGCCTTA TCCGCATCAA AGTTAAGGTT       60

GATATTTTTA AAACTGTCGC CAGCTTGTGA TACGATGCTT TGTTTAAGGT CATTTAGGGT      120

TTTAGTGAAA TCTGCATTGC TGAGGATATC ACTCTTTGAG AGATTCAAGG CAAAATTGAT      180

GATGATATTG ATCTGGTTTC CTGTTATGAC CTGATCAAGT TTGTAATTTT TTAAGGTATC      240

TTCAACAATC TTGCGGATAT CTTCTTCTGT CAGATTTCCC TTACTTTCTT TAGCTTTGGC      300

GAGTCCTGAC TTGATATCAG CTAGGGCAAC GTTTAATTTA TTAGCATCAT AGCCTGATTT      360

GTCCTTGTTT TCAGCATTGA TATCTGACAA AGCTTTTAGC TCTTCTTGAG CCAAATCTTT      420

ATTAGCTTGT GGCACCTTGG CTCCATTAGC CTCTAGCGAA TAGTAAATCC CTGCTAAAGC      480

ACTTTCTCCT GTAACTGGAA TAGGGGCTGC TACAGTGATT TTGGCATGTT CCATACCCAG      540

CGTTACTGCT GCGTTTCGGT ACATATCCTG AGTCACCTTA GTGATATTTT CTGGTGTTTC      600

AATCTTGACC TCAAGTGGCG ATTTGTCACC TAGCTTTTGA ATCTTGGCTG ATGAATACAA      660

CTGTAAGCTA GAGTCATTGG CCACATTCAT GATTTTAGAA TAAACATCAG GTGTCATGGT      720

CTTGAGTTCT TTGGTATCTG TTGAGGCATT GTAGCCCAGT TTTTTAAGAG TTTGATTTTT      780
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709

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TTGGTCTTCA GATAGGGAGG AACCTAGGAC ATATTCAGGT TGGACATAGG TTTCATCGAT      840

AACTTTTTGA ACATCTGTTG CTGCATGGAC GCTATTCATA GCTGTTACTG CCCACAAGAT      900

CGCAGCGCTA GTCAGAAAGA GTTTCTTTCT CATAGGGAAT TTCCTCCTTT ACTTCTTTAG      960

AGTAATATAT CTATCTTAAA GAAAACTTAT AACAAAAACA CCTGGTCTAG CCAGATGTTG     1020

AAAAGAGAGT GAAACATTTG ATGATGTAAA GGTTAAGTCG TACCTGTCTA GAATAATAAT     1080

AGTTTCCTCC ATTTACATAG AGTTCAGCAC CGTGAAAAAT GGAAATGGGG TGAATATAAC     1140

TATAAGTCTT TCCAGTCCTA TTACCAAGCA AGGGGGCAAC AGTCTCACGA GAGTACTGTT     1200

TGGCTAGAGC CAGGGTATTT TCCTTGCCAT TTTGGGCGAT AAAATCGATA TAGGCAGGTC     1260

CAAAATTATA GGCTTGAACA GCTGTCCAGA TATCTACCCC CTTCTTCTGC GCCAGATAGA     1320

GATTGCCTGT CAGAGTTTGA ATGCCTTGCC GAATGCTAGA GGCATTATCA TTGATGGTGT     1380

TGGTGGAACC ACTTGCAGAC TCACTAGACT GCATAACATC GCCTTCTTTT CCTTTTGTTT     1440

CAGTATAAAT CATAGCAAGC ACAAGCTCTT CGTTTGCTGG GGTGTCTTGT TCACTCAATA     1500

TTTCTCGCAC CATGGGTTGA TAGGTCATGA CTTGTTTGAC ATCTTGATGA ACGCGGTAAG     1560

CTTTATAGCC AGCAAAAAGG AAGACTGCTA GTACAAGCAC TCTTCGAATT CGTTTAAACA     1620

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TCCATTTGAT AAGGAGAGTT TTTGGTTTTC AAATTTCTTT AATTGGCGAC TGGCATCAAT     1800

TTCATCAAAT TGAACAGGTT CTGGTACGGC TTCTTTGACT TGGTCAATAA AGCTCAAACG     1860

AGCCGTCAGA TTGTTGTCAA AAAGGTCATT AGCCAATTTC TCAGGTGACA ATTCATTGCT     1920

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GTTAAAAGAT TTAGCAATTC TCTGGGCTGT TTTTTCCAGT TCCTTGATAG ATTTTTTAGG     2040

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GTACTTGATT CGTTTTTCAA TCAGGTGATA CTTGCTACTC TGAAGATTGA CCACCAAGGC     2160

CTCATCAGCT CCTGTTCCAA ATCCAGGCAG GTTATTCTGA GTTAGCTTGA TTGGATTATC     2220

AACTTCTCCT CCGAGGTGGG TCAAGGTCTC CCGCAGGGCA ATTCGCAAGA AAGCGAAATG     2280

TTCTACACCT TCTTTAGAAA ATTGCACAAA AATCAAGTCA TTGGTCTTGA GATTTTCAGA     2340

AATGCTAAAC TCCTCTTTCC AGAGATTAGC CAGCGTTACT GATGTCTCCA ACAAATCGTC     2400

TGTAATATGA TTGAAGAAGG GATTTTCTTC TTCGAAAATC CCAGTCTTGG CTTCATCTGA     2460

ATACACATGT TCAATTTTTT TACGCAGGTA TTCTTCGATT TTTGGAGTAA TATTGAGAAA     2520
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710

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CTTATCTGCT AAGAACAGTT CGGTATCATC CGGACTGAAC TGGTGAATAA TGGCTTTCTT      2580

AATATAAATG TCCATAAAAG TTTTAGTCCT CGTATAATGG GAAGGCATCT GTCAATTCTT      2640

TGACTGCACT TCTCACTTCT TCTAATACAG CCTCATTTTC TGAATTCTTA AGGGTTTTAA      2700

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TTTTATTTAA GGTAATATTG ACTTCATCCA ACAAGTTTTG AGCAACTTTG CCGTTTTCTA      2880

CAACTTTAGT CACATCAACA AGGAAGAGAT GGTTTTCAGT TCCACCTGAA ATAATACGGA      2940

AATCAGGGTC TTGCAAGAAG ACATCTGCCA TAGCCTTGCT GTTCTTAATT ACATTGGCAG      3000

CATATTCCTT GAAGGCTGGA TCCAAAACTT CTTTGAAGGA AACTGCCTTA GCCGCCACAA      3060

CATGCTCTAA AGGACCGCCC TGAATACCTG GGAAAATAGC TGAATTGATT TTTTTAGCAA      3120

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CACTATAAGA AACAAAGTTG TAGGTTTGAC CAGAGAAGCT AACAGGAGCC CCATGAGTCA      3480

AATGACCACC TGATGCCAAA TCCATTCCCA TAACCGTATC ACCTGGCTCA ATCAAGGACA      3540

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CACCATAATA ACGGCGTCCT GGGTAACCCT CGGCATATTT ATTTGTCAAG ATAGACCCTT      3720

GAGCTGCCAT AACAGCCTTG GAAACTACGT TTTCCGAAGC AATTAACTCG ATATTATTTT      3780

GTTGGCGTTC TTCTTCTTTG GCAATAGCAT TCCAGAGATC AGCATCATAT GCTTTAAAAT      3840

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CCAATACCTT GACCTTGCGC TTGAGGTGAA ACTGCTAAAG CTAAGATATT AAATCCTGCT      4140

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GCATCCTCAT AGCCAAGTAG GAAATGATGG GAATCCTGAG ACAGTCTAGC TAGTTGGCTA      4260

GCCGTTTCCT CTGGACTAAA AGTATAACCC AAAGCCTCTT GGTTGATGTC ACATATAGCT      4320
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711

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TTCACATCAG TTTCTCTTAA ATCTCTTAGC ATCTCATTCC TCCTCAAAAG AAATCTTTGG    4380

CAACCGAGCA AGAATATCTT CTCGCTTAAT GGCCCCTTGA CGTAAGATTT TCACCTTGTC    4440

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TTGAAGATAA GTTGGCTGAT TCTTTGAAAA GTACAAGATG TCCTCTAAAG AGGCAACATT    4800

GAGATTGAGC GCCTTGTCTC TACGTCGACG TTTAAGCTGG TAAACATGGT CAACTGCTTT    4860

TTCGTCTAGC GCCTTAGCAA AGAGACCGTA AACTGTCTCT GTAGGCAAAA CGACAGCTCC    4920

ACCATTTTCC AACTCTTGTC TAATCCTGTC CATCATCAAC GACAACCATC CTATCTTGAC    4980

CAAATTGGTC CTTGAGTGTT CGTACTCGCT TTTCAGGAAG ATGTTTCCTA AAAAGTTCAG    5040

GAACACTTTG ACCTTGCTTG TATCCAATTT CAAGGTAAAT CTTACCACCA TCTTTGAGAT    5100

AGTCTTTTGC ATCTTCCGCA ATTCTACGGT AAATAGCTAG GCCATCCTCA TCTGCAAAGA    5160

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TTCTGAACGG TCACCAGTAC CGATTGTCGA CTTACGCTCA GCGTCCTGCT CATCTTGAGC    6000

AATCTGAGCA AAGTGGTCAG CAACACGGGC ACGGATGATT TTCATGGCCT TCTCACGGTT    6060
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712

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CTTCTGCTGG GTACGTTCTT CCTGCATCTC AACCTTGATA TTGGTTGGCA AGTGAACGAT        6120

ACGAACGGCA GTCGCAACCT TATTGACGTT CTGTCCACCA GCACCAGAGG CGTGATAGAT        6180

GTCGACACGA AGGTCTTTTG GATCAATGTC GTATTCAACC TCTTCAACTT CTGGCATAAC        6240

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CAAAATAATG TTTACGGCAA ACTGAGATAT AGGTTTCGTT ACCACCAATC TGGATCTGTT        7440

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TTGTTTCCTC AATCGCAAgG GCAGGGCGTT TCATGCCAAT TCGACTCGAC ACATAGCCAA        7800

CGCCGTCACG CGTATCCAGA GCCGAGGTCA TAATCACAAC ACCTTTTCCT TGCTCCTCGT        7860
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713

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AGTTATAGGC CACTTTGAGA ATCTCAATCG TTTTACCAGA GTTCATGGTC CCATAACGAT    7920

AGTACAACTG TGCCATGTTT CTTGCTTCAC GTCCATTTCT AAATTTTTGC TACATTCTAG    7980

TATATCATAA TTTTCTTAAG CTTTAAACGG CAAAATGTGG TAAAATAGAA GAAATCAAAA    8040

ACTAGTGGAG GAAGCTATTA TGCCATTTGT ACGCATCGAT TTATTTGAAG GACGCACGCT    8100

CGAGCAAAAG AAAGCTCTTG CTAAGGAAGT AACGGAAGCA GTTGTCCGCA ACACTGGAGC    8160

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CGGAACTACC TGAAGATGTC ATCCGCATTT CAGTTCTTAA AAATCAAAAC ATCGATAAAA    9480

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CCTACTTGTC AAACGCCCGT CACATTTCCT TGATTGAGAA GGCCGTTGAA AGCCTACAAG    9600
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714

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GTACTTGGGA AATTCTAGGA GAAATCACTG GAGATGCTGC TCCAGATGAA CTCATCACCC    9720

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AAAAGATTTC TATGACTGAT ATTGCCCATC AGCTTTCCAT CTCAACTTCA ACTGTTATTC    10320

GTAAGCTCAA TGACTTTCAC TTTAAACATG ATTTTTCTTG TCTTCCTGAG ATTATGTCTT    10380

GGGATGAGTA TGCTTTTACA AAAGGGAAGA T                                   10411
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(2) INFORMATION FOR SEQ ID NO: 90:

      (i) SEQUENCE CHARACTERISTICS:
         (A) LENGTH: 2393 base pairs
         (B) TYPE: nucleic acid
         (C) STRANDEDNESS: double
         (D) TOPOLOGY: linear

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 90:

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GTTTTGGGTT CTGGAAATTA TCAGATGGTT GGAAAAGCCG TCCACATCAA GATAGTGTTC    60

GGAGATTTAA GTTTAAATTG AAGAAACTAA CACAGAGGAA ATGGAGTATA GACCTAACAA    120

GACGTATTGA GCAACTGAAT TTGTCTATTC GAGGATGGAT AAACTATTGC TCATTGGGAA    180

ATATGAAAAG TATAGTCGCC AGCATAGATG AGCGCTTGCG TACTCGCCTA CGAGTGATTA    240

TCTGGAAGCA ATGGAAGAAG AAATCGAGAC GATTATGGGG ATTGCTTAAG TTAGGAGTTC    300

CTAAATGGAT AGCAGATAAG GTATCTGGCT GGGGCGACCA TTATCAATTA GTAGCTCAGA    360

AGTCGGTACT TAAACGTGCT ATATCAAAAC CAGTCCTGGA AAAACGTGGA CTGGTTTCGT    420

GTTTGGATTA TTACCTTGAA CGACATGCGT TAAAAGTTAG TTGAACCGCC GTATGCCAAA    480

CGGCACGTAC GGTGGTGTGA GAGGGGCTAG AGATTATCCC CTACTCGATT AACTCCCCTG    540

AAATTTATTT TAATTATGCA AATTTCACGT ATTTTTGATG CTGAGACGAC GATCCTGGGA    600
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715

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ACTTTTCAGA TATTTTTTTG ACTATCTAAA TCTATCATTA GAAAAGCTTA GAGCGCCAAA      660

GGATTTGAGC GTTTTTCTGA TTTTTAAGAC TTTTTCCAGT CTCTTTTTCG ATTGAAGATG      720

TAATTATTCT ACTAACTAAC TAACTTCTTA GTACTAGCCA ACAACGATAA TCATAATTCC      780

TCCTAAAATT AGGAATAATA AAGGCAATAG TTTTTGTTTT TTCATGTAAA AAACCTCACT      840

TTTGTTTTCT GCTATTTTAT GCTAAAATAT TAAAAATCAA ATTTAATTCC AAAGTTTGTA      900

ACTAAAGGGG GAGCGCTACA TGTCTAATTC ATTTGTCAAG TTGTTAGTCT CTCAATTATT      960

TGCAAATTTA GCAGATATTT TCTTTAGAGT AACAATCATT GCTAACATAT ACATTATTTC     1020

AAAATCAGTA ATTGCCACAT CACTAGTTCC TATCTTAATA GGAATATCCT CTTTTGTTGC     1080

GAGTCTTTTA GTTCCGTTGG TTACTAAAAG GTTAGCGCTA AATAGGGTTT TATCTTTATC     1140

TCAATTTGGA AAGACTATAT TATTGGCGAT ACTGGTAGGA ATGTTTACCG TAATGCAATC     1200

CGTAGCGCCT TTGGTGACCT ATCTATTTGT TGTTGCAATT TCCATACTAG ATGGTTTTGC     1260

AGCACCCGTT TCCTATGCTA TTGTGCCACG CTATGCGACC GATTTGGGTA AGGCTAATTC     1320

AGCCTTATCA ATGACTGGTG AAGCTGTTCA ATTGATAGGT TGGGGATTAG GTGGACTCTT     1380

GTTTGCAACA ATTGGTCTGT TACCTACCAC GTGTATCAAT TTAGTCTTGT ATATCATTTC     1440

TAGCTTTCTG ATGTTATTTC TTCCTAACGC TGAAGTGGAG GTGTTAGAGT CAGAAACTAA     1500

TCTTGAAATT TTGCTCAAAG GTTGGAAGTT AGTTGCTAGA AATCCTAGAT TAAGACTTTT     1560

TGTATCAGCA AATTTATTGG AAATTTTTTC AAATACGATT TGGGTTTCTT CCATTATACT     1620

TGTTTTTGTA ACGGAGTTAT TAAATAAAAC GGAAAGTTAC TGGGGATATT CTAATACAGC     1680

ATACTCTATT GGTATTATAA TTAGTGGCTT AATTGCTTTT AGGCTATCTG AAAAGTTCCT     1740

TGCTGCTAAA TGGGAACCCC AATTATTCAC CCCAAATCTA AAAACCATCC AGAATCCTTG     1800

CCTTAGCTTA GATCCTGGAT GGTTTCTTTT TTCACCCAAT GGGTGTTTTT TACTAGACAA     1860

AAAAGAGTTT CCCCTTTATG GTATAAGTGT AGAAAAAAAC ACAAAAAGAA AGGAAACTCA     1920

CATGAACAGT TTACCAAATC ATCACTTCCA AAACAAGTCT TTTTACCAAC TATCTTTCGA     1980

TGGAGGTCAT TTAACCCAGT ATGGTGGTCT TATCTTTTTT CAGGAACTTT TTTCCCAGTT     2040

GAAACTAAAA GAGCGGATTT CTAAGTATTT AGTAACGAAT GACCAACGCC GCTACTGTCG     2100

TTATTCGGAT TCAGATATCC TTGTCCAGTT CCTCTTTCAA CTGTTAACAG GTTATGGAAC     2160

GGACTATGCT TGTAAAGAAT TGTCAGCTGA TGCCTACTTT CCAAAATTGT TGGAAGGAGG     2220

GCAGCTTGCT TCACAGCCAA CCTTATCCCG TTTTCTTTCC AGAACTGACG AGGAAACAGT     2280

CCATAGTTTG CGATGCCTCA ACCTTGAATT GGTCGAATTC TTTTTACAGT TTCACCAGCT     2340
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716

AAACCAACTC ATTGTAGATA ACGATTCTAC CCATTTCACA ACTTATGGCA AGC   2393

(2) INFORMATION FOR SEQ ID NO: 91:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 4762 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 91:

TTTGTATCTT TTTAGGTCTC TTTCAATCCA AACCCTTTAA ACTATACGTC ATTTCGGTTC   60

CTGCAAGTCT TGTGGTAATT TTAGGTTTGA TTTTACTTTT CTTTTCACAA GAGCCTCTGC   120

ACGCTTCTTA TTTGATGGTC GTCTTCCCTG TTTTCCTACT TTTATTGGTA ACCAATATTA   180

AGAGTCAACA GAGGGGGCGT AGTGCTAGAA GAAGCCGAAG AGAAACGCCA TTATGCCTAT   240

GGAGTCGTTT CTTCAAAGGA AATCTATATC TGCTAGTTTT TGGGTTTGTC TATCTTTTGT   300

CTGTTCCTTT TTTGATGAAG TTTGTCCTTT ATCCAGTACC TTATCAAGAA CGTAATCGTC   360

TTGCTGATTT GGTAAAAGAG GAGACAAATA CGGAAGATGC TATCTCATGC ATGGGATGAT   420

ACTGCGACTC TTTATCGTAA GAGTGAGCGC TTGTCCCATC GGCGATTTTG TCCCCGTTGC   480

ACTATACAGC AACTGAGGAA AATCGTAATA AGTTACTTAA TGACTTGAAA GAAAAACAAC   540

CTAAGGTGAT TGTGGTAAAT GATAAGGTGG TAGTCTGGTC TGAAGTGGAA ACACTCTTAA   600

AAGAAAATTA CCAACAAGTA AAGACTGATT ACTCAGAGTT TAAAGTCTAT AAAATTAAAT   660

AACCAAATCA ATATCTTGTG TATTTTTAAA AATTTTAGGA TTTTTAACAC AAGATATTGA   720

TTTTTCTTTT TAGAGTGGTA TAATACTTTT TAGAAAGAAC ATTTTAGAAA AGAGCATGCA   780

TATGATTGCA CTAGAAGAAA AAATTACAAT TTTGCCAACT CTCTTCGTCG AGAAACGAGA   840

TGGGAGACGT GTTGTATTTG ATGTGGACAA GATTGACAAG GCTCTCCACA AGGCGGCTGA   900

CAAGGTTATG GATGTGACAC CCCTGGTTGA AAAATGCCTC AATGATCTGA CTGAGCGAAT   960

TATTACAGAA ATTCATAGTC GCTTTCCACA GGGAATTAAG ATTTACGAAA TTCAAAAATAT   1020

CGTAGAACAT GAACTCCTTG AAGCCAAAGA ATATGCGCTG GCTGAGGAGT ATATTACTTA   1080

TCGGACACAG AGGGATTTTG AGCGCTCAAA AGCGACGGAT ATCAACTTTA GTATTCATAA   1140

ACTTCTCAAC AAAGACCAGA CAGTTGTCAA TGAAAACGCT AATAAAGACA GTGATGTCTT   1200

TAACACTCAG CGTGATTTGA CAGCAGGGAT TGTTGGGAAA TCAATCGGAC TGCAAATGCT   1260

TCCTAAGCAC GTAGCCAATG CCCACCAAAA GGGGGATATC CACTATCACG ATTTGGACTA   1320

CAGTCCCTAT ACCCCTATGA CCAACTGCTG TTTGATTGAT TTTAAGGGTA TGTTGGAAAA   1380

717

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TGGTTTTAAG ATTGGAAATG CAGAGGTAGA GAGTCCCAAG TCTATCCAGA CTGCGACAGC      1440

ACAGATTTCT CAAATCATTG CCAACGTTGC TTCTAGCCAG TACGGTGGCT GTTCAGCTGA      1500

CCGTATCGAT GAAATTTTGG CGCCTTATGC AGAGAAGAAT TATCAAAAAC ATCTCAAAGA      1560

TGCAGAAGAG TGGGTATTGC CTGAAAAACA GGAAGATTAC GCTTGGAAGA AAGCGCAAAA      1620

GGACATCTAC GATGCCATGC AATCTCTTGA GTATGAAATC AATACTCTCT TCACTTCAAA      1680

TGGACAAACA CCTTTTACTT CGTTAGGTTT TGGTCTGGGA ACCAGTCGTT TTGAACGAGA      1740

AATTCAAAAA GCTATTTTAA ACATTCGCAT CAAGGGTCTT GGTTCAGAAC ACCGTACGGC      1800

TATCTTTCCT AAACTTATCT TTACGCTTAA AAGAGGCCTC AACTTAGAGG AAGGAACTCC      1860

CAACTATGAC ATCAAGCAGT TGGCTCTAGA GTGTGCAACC AAGCGGATGT ATCCAGACGT      1920

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TTCTTTCCTT CAAGGGTGGA AGGATGAAAA TGGTGTAGAA GTCAATTCAG GTCGCATGAA      2040

TCTGGGTGTT GTGACGGTTA ATCTGCCTCG TATTGCTCTT GAGTCTGAAG GTGATATGAA      2100

TAAGTTCTGG GAAATCTTCA ACGAGCGAAT GAATATCGCA GAAGATGCTC TTGTTTACCG      2160

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TTTTGGCCAT CGTCTAGGTA AAGAAGAAAG TGTTGACCAG CTCTTTAAGA ATCGTCGTGC      2280

GACCGTTTCG CTGGGCTATA TCGGCTTGTA TGAAGTAGCG ACAGTTTTCT TTGGTAACAG      2340

CTGGGAAAGT AATCCAGATG CTAAGGAATT CACGCTAGAC ATCATTCACG ATATGAAACG      2400

CCGTGTAGAA GAGTGGTCAG ACCAATATGG CTACCATTTC TCTATCTACT CAACACCATC      2460

CGAAAGTCTG ACAGACCGTT TCTGCCGACT AGATATAGAC AAGTTTGGCT CTATTCCTGA      2520

TATCACAGAC AAGGAATACT ACACCAACTC TTTCCACTAC GATGTTCGTA AAAATCCAAC      2580

ACCGTTTGAA AAATTGGACT TTGAGAAAGT CTATCCGGAA GCAGGTGCGT CAGGTGGTTT      2640

CATCCATTAT TGTGAGTATC CAGTCCTTCA GCAAAATCCA AAGGCCTTGG AAGCTGTCTG      2700

GGATTATGCT TATGACCGTG TAGGCTATCT AGGCACCAAT ACTCCGATTG ACCGTTGCTA      2760

CAAGTGTGAC TTTGAAGGGG ATTTTGAACC AACTGAGAGA GGGTTTGCTT GTCCAAACTG      2820

TGGCAATAGC GACCCTAAAA CAGTAGATGT GGTGAAACGA ACTTGTGGCT ACCTAGGTAA      2880

TCCTCAAGCA AGACCGATGG TCAACGGGCG TCACAAGGAA ATCGCTGCGC GTGTCAAACA      2940

TATGAATGGT TCAACGATTA AAATAGCTGG GCATCAAGTA ACAAATTAGA AAGAAATGAA      3000

ATGGGAAAAT ATCAACTAGA CGATAAGGGG CGCGCACAAG TGACCCGTTA TCACGAGAAA      3060

CACTCTAAAG GTGGAGCTGG TAAGAAAGAA CGCTTGCTTA GCTTCAGAGA ACAATTTTTA      3120
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718

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AACAAGAACA AGAAAAAATA AAAGTGAGAG CCAGCTCTCG CTTTTCTCAT AGTGGGAGGT    3180

AAGGATGGAA TTACGCAGAC CAAGATTAGC GGATAAGAAA GCTGTTTTAG ATATGATGAC    3240

AGAGTTTGAA AAATTTCAGT CGCCTCACGA CGGCGGTTTC TGGGATACAG AGAACTTTGT    3300

GTATGAAGAC TGGTTAGAAA GCAATCAGGA ACAGGAAATG GGGATTAATC TGCCTGAAGG    3360

ATGGGTTTCT GCAATTCAGT TAGTGGCTTT TTCTGAGAAA GGTCAAGCAG TTGGATTTCT    3420

TAATCTCCGG TTGCGCCTCA GTAACTTTCT ACTAGAAGAA GGTGGCCACA TTGGCTACTC    3480

CATTCGTCCA TCTGAAAGAG GCAAGGGTTA TGCAAAAGAG ACTCTCCGTC AGGGCTTGCA    3540

AGTTGCTAAG GAAAAGAACA TCAAGAAAGC TCTGGTGACC TGTAGTGTGA ATAATCCTGC    3600

TAGCAGAGCA GTCATTCTAG CAAATGGTGG AATATTTGAG GATGCTCGCA ATGGAGTCGA    3660

GCGTTATTGG ATAGAGGTAG CGAATGAATA ATCCAAAACC ACAAGAATGG AAAAGCGAGG    3720

AACTTAGTCA AGGTCGTATC ATTGACTACA AGGCCTTTAA CTTTGTGGAC GGCGAAGGCG    3780

TGCGCAACTC TCTCTATGTA TCAGGCTGTA TGTTTCACTG CGAGGGATGT TATAATGTTG    3840

CGACTTGGTC TTTTAATGCT GGCATTCCCT ATACAGCAGA ATTAGAAGAG CAGATTATGG    3900

CAGACCTTGC CCAACCCTAT GTTCAAGGCT TGACTTTGCT GGGAGGGGAG CCTTTTCTCA    3960

ATACTGGGAT TCTCTTGCCA CTTGTTAAGC GGATTCGGAA GGAATTGCCA GACAAGGACA    4020

TCTGGTCCTG GACCGGCTAC ACTTGGGAAG AAATGATGTT GGAAACTCCA GATAAACTGG    4080

AATTCTTGTC ACTGATTGAC ATTCTTGTCG ATGGAAGATA TGATCGAACT AAGAGAAATC    4140

TTATGCTCCA GTTTCGAGGT TCATCTAACC AACGAATTAT CGATGTGCAA AAATCGCTCA    4200

AAAGTGGGCA AGTAGTGATT TGGGACAAGC TCAATGACGG AAAAGAAAGC TATGAACAGG    4260

TGAAGAGAGA ATGAAGAAAA AGGACTTAGT AGACCAACTA GTCTCAGAGA TCGAGACGGG    4320

GAAAGTCAGG ACACTGGGAA TATACGGTCA TGGAGCTTCA GGTAAATCAA CCTTTGCACA    4380

GGAATTGTAC CAAGCTTTAG ATTCTACTAC AGTAAATTTG CTAGAGACAG ATCCTTATAT    4440

CACCTCAGGA CGCCATCTGG TAGTACCCAA GGACGCGCCG AATCAAAAGG TGACAGCCAG    4500

TCTGCCAGTG GCGCATGAAC TGGAGAGTTT GCAGAGAGAT ATCCTTGCTT GCAGGCGGGT    4560

ATGGATGTCT TGACAATTGA AGAACCTTGG AAGGCTAGTG AGGTCTTGTC TGGAGCCAAA    4620

CCAATTTTGA TTGTCGAAGG GATGTCTGTT GGCTTTCTAC CCAAGGAACT CTTTGAAAAA    4680

ACCATCTGTT TCTACACGGA TGAGGAGACC GAATTAAAGC GACGCCTTGC TAGAGATACG    4740

ACTGTGAGAA ATCGCGATGC GG                                            4762
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(2) INFORMATION FOR SEQ ID NO: 92:

    (i) SEQUENCE CHARACTERISTICS:

719

(A) LENGTH: 3832 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 92:

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GATGCAGGTT TCGACCCACA TATTCCAGAA AATTACTTTA AAGATGATGA TGTTAATCAG      60

GTACCTTGTC TTTGTTGGTC TTCATCTGCA GCCCTCTTTT TCAGTAATTG GGTAGACCAT     120

GCGGTCTATC AGGAGACGCC TTTTGATTGG AGAAAGATAG AAGATGATGC ATCTGCATAT     180

GGGTATTTAT AAGAGGAATT ATGACATATT TAGACGCTTT TAAATCAGGT ACCTTGGTTT     240

TACCGAGTGC CCTGCTCTTG CATTTTAAGG AACTCTTTCC TTCTAGCGAC GATTTTCTGG     300

TTTGGCAATT TTTCTATTTG CAAAATACGA CAGGCTTAGA AGAAATGTCG CCAAGCCAGA     360

TTGCTGAAAG GATTGGCAAG GAAATTTCGG ATGTCAACCA GTCCATTTCT AATCTGACGG     420

AAAGGGGACT GCTCCAGTAT CGTACTATCG AATTAAATGG CGAAATTGAA TTGCTCTTTG     480

ATGCTAGTTT GGCCTTGGAA CGTTTGGATG ACCTGTTTGG AGCAGTTCAT TCAAGTTCAG     540

ACCAGCTAAC ACCTCAAAAC CAGCTCAAGG ATTTGGTGGA AACCTTCCAG CAGGAGTTGG     600

GACGATTGTT GACGCCTTTT GAGATTGAGG ATTTGACCAA GACACTAAAG GAAGATGGAA     660

CCAGTGCTGA CTTGATTAAG GAGGCTCTTC GTGAAGCTGT TTTGAATGGA AAACCAAACT     720

GGAAGTACAT TCAGGCGATT TTGAGAAACT GGCGCCATGA AGGAATCAAG AGTGTGGCTC     780

AAATTGAGGC CAAGAGAGCA GAAAGAGAAG CAAGCAATCC TCAGTTGACA CAGGTATCTG     840

CAGATTTCAT AAATGCCATG GATCTCTGGA AGGATTAATC CATGCAAGTA GGCTTGAAAT     900

CCGAGTAAGA TTTGCAAGCT GTGTATAATT GTGATAGAAT AAATAGAAAA TAAAATTGAAA    960

AAAGAGGTAT GTGAAATGTC ACGTAAACCA TTTATCGCTG GTAACTGGAA AATGAACAAA    1020

AATCCAGAAG AAGCTAAAGC ATTCGTTGAA GCAGTTGCAT CAAAACTTCC TTCATCAGAT    1080

CTTGTTGAAG CAGGTATCGC TGCTCCAGCT CTTGATTTGA CAACTGTTCT TGCTGTTGCA    1140

AAAGGCTCAA ACCTTAAAGT TGCTGCTCAA AACTGCTACT TTGAAAATGC AGGTGCTTTC    1200

ACTGGTGAAA CTAGCCCACA AGTTTTGAAA GAAATCGGTA CTGACTACGT TGTTATCGGT    1260

CACTCAGAAC GCCGTGACTA CTTCCATGAA ACTGATGAAG ATATCAACAA AAAAGCAAAA    1320

GCAATCTTTG CGAACGGTAT GCTTCCAATC ATCTGTTGTG GTGAATCACT TGAAACTTAC    1380

GAAGCTGGTA AAGCTGCTGA ATTCGTAGGT GCTCAAGTAT CTGCTGCATT GGCTGGATTG    1440

ACTGCTGAAC AAGTTGCTGC CTCAGTTATC GCTTATGAGC CAATCTGGGC TATCGGTACT    1500
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                                  720
GGTAAATCAG CTTCACAAGA CGATGCACAA AAAATGTGTA AAGTTGTTCG TGACGTTGTA      1560

GCTGCTGACT TTGGTCAAGA AGTCGCAGAC AAAGTTCGTG TTCAATACGG TGGTTCTGTT      1620

AAACCTGAAA ATGTTGCTTC ATACATGGCT TGCCCAGACG TTGACGGTGC CCTTGTAGGT      1680

GGTGCGTCAC TTGAAGCTGA AAGCTTCTTG GCTTTGCTTG ACTTTGTAAA ATAATCAGTA      1740

AGTAGCAAAA GCTAGGTGGA ACAGCATTCA GATGTCTGTT ACATTTTTTA TAGGAGAGAA      1800

AGATTGAAAA CAAAAATTGG ATTAGCAAGT ATCTGTTTAC TAGGCTTGGC AACTAGTCAT      1860

GTCGCTGCAA ATGAAACTGA AGTAGCAAAA ACTTCGCAGG ATACAACGAC AGCTTCAAGT      1920

AGTTCAGAGC AAAATCAGTC TTCTAATAAA ACGCAAACGA GCGCAGAAGT ACAGACTAAT      1980

GCTGCTGCCC ACTGGGATGG GGATTATTAT GTAAAGGATG ATGGTTCTAA AGCTCAAAGT      2040

GAATGGATTT TTGACAACTA CTATAAGGCT TGGTTTTATA TTAATTCAGA TGGTCGTTAC      2100

TCGCAGAATG AATGGCATGG AAATTACTAC CTGAAATCAG GTGGATATAT GGCCCAAAAC      2160

GAGTGGATCT ATGACAGTAA TTACAAGAGT TGGTTTTATC TCAAGTCAGA TGGGGCTTAT      2220

GCTCATCAAG AATGGCAATT GATTGGAAAT AAGTGGTACT ACTTCAAGAA GTGGGGTTAC      2280

ATGGCTAAAA GCCAATGGCA AGGAAGTTAT TTCTTGAATG GTCAAGGAGC TATGATGCAA      2340

AATGAATGGC TCTATGATCC AGCCTATTCT GCTTATTTTT ATCTAAAATC CGATGGAACT      2400

TATGCTAACC AAGAGTGGCA AAAAGTGGGC GGCAAATGGT ACTATTTCAA GAAGTGGGGC      2460

TATATGGCTC GGAATGAGTG GCAAGGCAAC TACTATTTGA CTGGAAGTGG TGCCATGGCG      2520

ACTGACGAAG TGATTATGGA TGGTACTCGC TATATCTTTG CGGCCTCTGG TGAGCTCAAA      2580

GAAAAAAAAG ATTTGAATGT CGGCTGGGTT CACAGAGATG GTAAGCGCTA TTTCTTTAAT      2640

AATAGAGAAG AACAAGTGGG AACCGAACAT GCTAAGAAAG TCATTGATAT TAGTGAGCAC      2700

AATGGTCGTA TCAATGATTG GAAAAAGGTT ATTGATGAGA ACGAAGTGGA TGGTGTCATT      2760

GTTCGTCTAG GTTATAGCGG TAAAGAAGAC AAGGAATTGG CGCATAACAT TAAGGAGTTA      2820

AACCGTCTGG GAATTCCTTA TGGTGTCTAT CTCTATACCT ATGCTGAAAA TGAGACCGAT      2880

GCTGAGAGTG ACGCTAAACA GACCATTGAA CTTATAAAGA AATACAATAT GAACCTGTCT      2940

TACCCTATCT ATTATGATGT TGAGAATTGG GAATATGTAA ATAAGAGCAA GAGAGCTCCA      3000

AGTGATACAG GCACTTGGGT TAAAATCATC AACAAGTACA TGGACACGAT GAAGCAGGCG      3060

GGTTATCAAA ATGTGTATGT CTATAGCTAT CGTAGTTTAT TACAGACGCG TTTAAAACAC      3120

CCAGATATTT TAAAACATGT AAACTGGGTA GCGGCCTATA CGAATGCTTT AGAATGGGAA      3180

AACCCTCATT ATTCAGGAAA AAAAGGTTGG CAATATACCT CTTCTGAATA CATGAAAGGA      3240

ATCCAAGGGC GCGTAGATGT CAGCGTTTGG TATTAAGCGA TGATTTGAAA GAGGGATGTG      3300
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721

ATAGTAGCAC CCTCTTTTTC TTTGTTTTAT GATAGTTCAT CCTCGAGTAA ATTCAAGTTC   3360

TTGCTCGGAA ATGAAGCTTA TATAGTAGAT TGAATATAGA CAAATACCTT GTGATTGGTA   3420

AAACATTTTA GAAATTCATT TACCTTTCCT AATCGACTTG GTTTCATCTT ATTTCAATCT   3480

ATTATAGTAT TGGGGAATTT CTTCAAACCA CATCAGCTTG GTCAGTTCTA CCTGCGACCT   3540

CAAAACTTGT GCTTTGGTCA AGCTGGGTTT AGTTTCCTAG TTTGCTGATG GATTTCCATT   3600

GACTATAAGC ATCCAACCCT CTTTTTGTCT TCTAAAGAAT TCTTAAATTA TCAGTCTATT   3660

GCAACTTTTC TCATATAAGT TCTTTGTCTT GCTATTGGTT TTCCTTAGTA GTATACTAAG   3720

GTAGTAATCA TTAAGAAGTG GTTACAAAAA ATAATGAATG AGGTAAAGAA AATGGTAGAA   3780

TTGAAAAAAG AAGCAGTAAA AGACGTAACA TCATTGACAA AAGCAGCGCC GG   3832

(2) INFORMATION FOR SEQ ID NO: 93:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 10690 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 93:

TGAAAAAATC CTCATGAACC TGGCGCCAAT AGACAAGTGT CTTGTTTCCC TCACCTTCCT   60

TATAGGCATG GTCAGCTGAC ACTCGATTGA AGGGTTTAAC AGAAACCTTT GTAATTTCGA   120

CAATGCAGAC AGCCTGATTT TGACTATCTA AAATGACATC GAAGGTCCCT ACTTGGGGAA   180

GTGGTTCGTC TTCTAGCACA TAGAGGTCAT AGGCTGATGC TGTTGCTGTC TTTTCTCCTT   240

TAAACACCAA ATCCGCTAAA AGGTCTGGTT CAACTCCAAA AGCCCAGGCA TCGATTTCAT   300

CTCCGATCAA AGGATTGATT TGCTTGTATT TATTCCACAT TTCTTGCGGT ATCATGGGTG   360

CTCCTTTGTA ATTTTTTACT TTCTTCTTTT ATGTGTTTAA GATGATCTGG ATGGTCAATC   420

TCTAAATCAA AAATCTCTGG AATAGAACTG TAGTGGATAA TGCACTTGAT ACCCAACTGA   480

TTCATTTTTT GTATGAAAGA AGTATTCAGA TAGCCTGCTA CAGCAAAATC AATCTTGTTC   540

TTTCTTGCTT TATCCTGCAT ATCTCTTAGC ATATCTAACA TTATTGGACT TTCCATATCA   600

TGCCATTGAC TGTTTCTCAT AGTCGCAAAA ACAAAGGAAG TCAAATCATT CATTCCAACT   660

ACAATCTTTG AAATGCCCGT TTCCAGTATA CTAGATAAGT CAAAATACGC TGACGGTAAT   720

TCAATCATCG TTCCGACTTT CCCAGTAAAA CCCTGCTGAC GCAATACTGT AATAGCTTGT   780

TTTAATTGGT CGGCATCATT GACAAAAGGA AAGATAACAG ATAGATTGGG GTTGGTTTGA   840

722

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TAAACTTCTG TAACGACATG TGCTTCAGCC TGAAATTCAT CCAAACACGC CAGTAAACGC        900

CTAGTTCCTC TATAGCCAAA CAAGGGATGC CCTTCGTCAA AAAACTCTTT AGTCCCCACT        960

AAACAATTGG CTTCTGTATT CGTTAATTCA GTAAAACGAT ACCAAACTTC CTTACCTAAG       1020

TAAAAGGAGC AAATAGTATC AAGATAATCT TTCACAAATT CCTGACAACT TTGTAATAGT       1080

ATATTTTGAT TGAGCTCTCT CAATAAGTAT TCCCCACGAA TCATGCCGAC GTGGTGAAAT       1140

AGTTGAGGAT AAATTTTTTC AAGAATTTTT TCGCCACTAA GGGCAAGTTG ATTTCTCATC       1200

ATTCACCTTC CAATTCATGT AAGAAGTCTT GTCCAGTTCT GGAAATCCTA ATAATTCAGA       1260

CTTAACCTTC AAGACTAATG GCGATGCATT TTCTTCTGTA ATCTCTTGAA TATCCATCCA       1320

AATATATCCA AGTGAATCAT TCGCACCATC AGACACAGCT TCCGAAATCG TAACTTGAGG       1380

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TAACTCTTCC CTGACGAAAA CATCGTAGAT TCGAGGATTA GAGTAGCTTC TAACAGTAAA       1500

TCCCGTCTCT TCCATAACTT CTCTAGTCAG CGTTTCCGTC AGTCCTTCAC CAAGTTGCTG       1560

ACTGCCTCCA GGTAGATCAT ACCGATGTTG ATAAGGGCCT CTCGTTTTTT CAATGCAAAG       1620

TAACTTTCCA TTTTCAAAGC AAACACAGTA GACCCCAAAG TGATTTTTGA TTTCCATCCA       1680

ACTCCTCCTA CTTCAAAGAC CAGCCACCAT CTATTGTCAA GATTTGTCCT TGCATGGCGC       1740

TCGCTTTTCC ACTTGCTAAA AAAAGACTAA GCTCTGCTAT TTCCTCTGGC TCAATCCAGC       1800

GCTTGATTGG GGTTTCACTA GCCACCCAGT CAGCCAAACC ACCTGGTTCA AAATCCGCAG       1860

CGGTCATAGC TGTCTTGACT GCTCCTGGAG CGATACCAAA GACCTGAATC CCAGCTTCAG       1920

CATAGTCTAG AGCCAACTGC TTGGTGAAGC CAGCCAAGGC ATGCTTGGAT GAAGTATAGG       1980

CGTGACCACC TCCACCTGCT AGGCTAGAAG CAATGGAACA CATATTGATG ATGATTCCCT       2040

TTTTATTTTC CAGCATTTGT GTCAAATAAT ACCGAGTCAA CTCTACTGGA ATAATGTAGT       2100

TGATTTCAAA AATCTCTTGA ATGTCCTGCG CCGTTTGTTC CAACAGTGGT TTGTAATCAT       2160

CCAAAACTCC AGCAGTATTA CACAAAACAT CCACCTGAGG GCACCAGTCA AAAATAGGTT       2220

CCAAGTCCAA GGTCAAATCT CTCTGTAAAA AGCGAAAATC ACCCTCTAAG AGTGGCTTTT       2280

CACCTTGGTC AACTCCATAA ACTTGATAGC CCTTCTCTAA AAAGAGGCGA GCTTGAGCCA       2340

ATCCGATCCC TGAACTCACT CCTGTAATGA GTACACGTTT AGTCATGCAC TTCTACCCAA       2400

TCCGTTGCCA AAACATCACA AACTGTCGGG CTCCACATGG AAAAACCTTC TCCTTCGCCA       2460

GAAACGTTGA TTAGGAAATA AGGTGTCATT TCAAGTGCAA GCCCATTTTG CTCGATGGTA       2520

TCAAAGAGTT GGACATAGTT TTCCGCACCT CCCCAACCAG TTCGTACATA TTTTCTCTTA       2580

GCCTTTAACC CAGGCAGGAT CTCTTCAAAT GTCATGTTTT TCTCCTTTAA TTCTACATTC       2640
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723

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TTCATTTAAT TATAGCAAAA AACCGCTTTA TACGGCTTTT TGAATGTGAG TTATTCAAAC    2700

CTGCTACTAC TTACGGCAAA TTATTCCCTG CAGCAAGATA AATTTCATAC CATTCTTTTC    2760

TTGTTAAGCT AAAGTTTGCC GCTCGGCTAA CTTCTCTCAA GTGCTTAGGA TTTGTTGTAC    2820

CTACGACTGC CTGCATTTTT GCTGGATAAC GCAATATCCA AGAAATGGCA ATAGTTGAAG    2880

AGGTTACTCC ATATTTAATA GCTAAACGAT CAAGTACTTG ATTTAAAGCT TGAAATTTCT    2940

CATTTCCAAC AAAATTCCCT TTAAAATACC CGAATTGTAA GACAGACCAT GCTTGAATGA    3000

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CTTCCATATT AACATGAAAA GCTGATTCAA ATCCTGGAGT AAAAGCCGCA CTCAATTGTA    3120

GCTGATTAAC AGCTAACGGC TGCTTGACAT CTTTTTTAAG CAACTCCATC ATCATAGGAT    3180

TTTGATTAGA AACTCCAAAA TCTCGAACTT TACCTTGTTT ATAAAGGAGA TTAAAGGCTT    3240

CTGCTACTTG GTCAGATTCC ATCAAAGCAT CTGGTCGATG AAGGAGCAAG CTATCTAGAT    3300

GATCAATCTT CAATCTTTGC AAAATACCGT CTACTGATTT TATAATATAG TCCTTAGAAA    3360

AATCAAAATA GGTAAATTCT TCAATGCGAA TGCCACATTT GGACTGAATC CACATCTTTT    3420

CTCTTAAATC TGGACGATTT TTTAGGACAA GACCTAACAG TTCTTCACAA CGACCACGAC    3480

CATAAATATC AGCCAAGTCG AAGGCATTGA TTCCAACAGA AAGTGCTGTT TCTACAAGCT    3540

CTTCAACTTC TTTTACAGAT TTATCTTTTA TTCTCATCAT TCCGAGAACA ATTTCTGATA    3600

ATTCTTTGTC ATCTTGACCA AGAGTTATGT ATCTCATCAA ATTTTTCTCC TTTAATTTCT    3660

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ACTCCATTTT ATCTTCTTAA ACCCACGGAA CAAGACAAAG ATTCCAATAA AGAGGACAGC    3780

TAAAGGAATA ACTTTTGTAA GGAAAACATT TGAAATTCCC ATCCACTCAT AATAACGGAG    3840

CAGAGAACCC ACCACAAGAT GGGCAATAAT CATACTGACA AATGGACGAA AGACCGCTTC    3900

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AGCCGGAATA TAAAAGGCTC CTTCTTGTAT GAAGCTTGCC ATTCCTACAT ATCCTAAAAC    4020

AACTAGAAGA ACTATAGTCC CAACAACAAT GTAAGTGCCA ATTTTCATTT TAGGAGAATC    4080

TTGGACTAAA CTTCTTCGTA AAATTGTGGC CACAAGTCCA AATCCAATCA GAAAAATAAG    4140

AAGTTGCCCT AAAAATGTGA GCAAATTGAC TGTTAAGAGA GGACCTTTAG AAAAAATCACT   4200

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GATAGAACTG CGAGGTGCTC CCTTGAGAAT CTCTTTCATT ATTTTTTTAG GATTCTTACC    4320

TAGATAATCC TCTGCACTCA TGCCATCTCG TTCTGCTTCT GAGAAATCTA GCATCATCAA    4380
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724

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ATAGATCTGC TCTCTGAGAT AGTCTTCATC ATAGAGAAAT CCAGCAAGAT TAAAACTTTC    4440

CCACAACTCC TCAAAATACT TTTGATTCTC CTCAGAAAAC TCATGTAGCA AAGCGCTTGT    4500

TTCTTCGTAA TACTTCATTT TCTTCATGGT TTAACCCCCA TTCTTAATCC CTTCTACTTT    4560

TTGACTCAAA TCGTCCCATT GTTGCCAAAA GACTGAGACA CGCTCTTCTC CTTCTTTCAT    4620

TAATGAAAAA TACTTCCGAT CTGGACCATC TGGCGACGGG CGCATGTCGC CTCTTATCCA    4680

TTGATTTTTT TCTAACTTTT GCAACAAAGG ATAAATAGTT CCTGGAACGA TAGTATCAAA    4740

TCCAGCCTCT CGCAAAGTCT GAACCAACTC ATAACCATAC CGCTCTTTTT GACCAATCAT    4800

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CATGACACTT GCCAATTGGT CACGAAGAGC TTCATCCTTG GCCAAGACCC ATGGTGCGGT    6000

CTCATCGATG TATTTATTGG TACGAGAGAT CAGAGTCCAG ACTGCTTCAA GCGCACGTGG    6060

ATAGTCAACT GCTTCCATGT GTGTATGGAA GTCTGCGATT GATTGTwCTG CAACCTCAGC    6120

AAGAACATGA TCATATTCAG TCACACCTTC TACATAGGCA GGGATTTGTC CATCAAAGTA    6180
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725

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CTTATTAATC ATGGAAACCG TACGGTTAAG GAGGTTCCCA AGGTCATTAG CCAATTCATA    6240

GTTGATACGG CCGACATAGT CTTCAGGAGT AAAGGTTCCG TCTGAACCAA CTGGAAGGTT    6300

ACGCATGAGG TAGTAACGAA GTGGATCTAG TCCATAACGC TCTACCAACA TTTCAGGGTA    6360

AACGACATTC CCTTTTGACT TAGACATTTT TCCGTCTTTC ATGACAAACC AACCATGGGC    6420

AATCAAACGA TCAGGTAATT TAACATCCAA CATCATAAGA AGGATTGGCC AGTAGATAGA    6480

GTGGAAGCGA AGGATATCTT TTCCTACCAT ATGGAAGACT GTTCCATTCC AGAACTTGTC    6540

AAAGTTACCA TGTTCGTCTT GAGCGTAGCC AAGAGCTGTC GCATAGTTAA GAAGGGCATC    6600

AATCCAAACG TAGACAACGT GTTTTGGATT TGATGGGACA GGCACTCCCC ATGTAAAGGT    6660

TGTACGAGAT ACCGCCAAAT CTTCCAAGCC TGGCTCGATG AAGTTGCGTA GCATTTCATT    6720

AAGGCGACCA TCTGGCGTGA TAAATTCAGG ATGAGCTTTG AAAAATTCGA CCAAACGGTC    6780

TTGGTATTTG CTAAGGCGAA GGAAGTATGA TTCTTCAGAA AcCCATTCAA CCTCATGACC    6840

TGATGGAGCA ATACCACCAG TCACATTTCC AGCTTCATCA CGGAAAACTT CTGCCAGCTG    6900

GCTTTCTGTA AAGAATTCTT CGTCTGATAC TGAATACCAA CCAGAGTATT CACCCAAGTA    6960

GATATCATCT TGAGCAAGTA AGCGTTCAAA GACTTGTGCG ACAACTTTTT CATGGTAGTC    7020

ATCAGTTGTA CGGATAAATT TATCGTATGA GATATCTAGT AATTGCCAGA GTTCTTTAAC    7080

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GCGTTTGTAA CGTGCTAGGA CATCACATGC GATAGTTGTG TAGGCAGAAC CGATATGAAG    7260

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TTCATAACGA AGGGCTTCAA TTGGATCAAG TTTCGATGCC TTGTTGGCTG GCAAGACTCC    7500

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TCCAACTTCT ATACCTTCTA TTAAACCTTG CAGTAACAAA CCTGCTAAGg CAGTTAAACC    7620

ACTTGCAATT GTCAAGCCAA TTAAGCCACC TAACAAGGTC AAAATCATGG ATTCAATCAA    7680

AAACTGAATT AAAATATTGG CACGTGTTGC ACCCAAAGCC TTACGAAGAC CAATCTCACG    7740

AGTGCGCTCT GTCACCGAAA CCAGCATGAT GTTCATGACA CCAGTTCCTC CAACAAAGAG    7800

AGAAATCCCT GCGATGGAAC TAATAATCGT CGTCATAAAA CTAAACGATT GTTGAATTTC    7860

TGCAAATACA ACGGACTCAT CTGCCACCTG GTATTCTCCC TGTTGTAAGC CTGCAAGCTC    7920
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726

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TGTCATTTTT CGTGCCAGTT CTGGACCCAG AGTTGGGGTT AAACTGGTAT CATTCACTCG      7980

AAAGACAATA TTAGCTATTT CATCTACATT AAAATTCGCA GCAAGGGAGA TATTGGTAGT      8040

AATAGGCAAG CCACCAAACC CATATATTTT TGATCTTTTA GCCTCCGGAC TAGTATAAAC      8100

CCCAATGACC CGGTAACTAA ATCCATTGAC TTCTACAACC TTGTTAATAG CCTCTTGAGG      8160

AGATTCAAAT AAACTAATGG ACAATTCCTC ATCTAGCAAA ATGACACTTG CAAACTCTTT      8220

GAAATCTTGC TCTCTCAGAC TACGACCTGC AATAATTTCA TTCTTAACAG CGTCCATGTA      8280

AGTTCTGTTT CCACCTGTCA AATTAGCATT CTCAACCTTT TTATCTTGAT AGGTCAAGAT      8340

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GACCCAGGAT TCTTGCGGTT TTGGCGGTTC AACAGGAACT TCCTCTTCCT TTCCAGAAAC      8460

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GACGCTAATA TTTTTCTGAG ATTTAGTCAT ATCTTTATTG ACTTGACGAG ATAGGGAATC      8580

ACCCAAAGCC ATAATCACAA CAACTGATGA AACACCGATA ATAATCCCAA TCATAGTAAG      8640

CAAAGAACGC ATCTTGTGAG CCATGATAGA TGAAAAGGCA AATTTCAGAT CTGCATCTT       8700

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GCTGAAAGAC AAAACCGATT TGTTGGTTAC GGACCTTAGC TAGTTGTTTT TCACCAAGCC      9180

CAGCCACTTC TTGACCTTCA AGATAATATT CTCCACTGGT TGGTGTATCC AACATGCCAA      9240

TCGTATTCAT CAGAGTGGAC TTACCAGACC CAGATGGTCC CATGATGGCT ACAAATTCAC      9300

CCTCATTCAC TTCTAGATTG ATATTTTTGA GAACCTGCAG TTCTTGGTCA CCATTACGGT      9360

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TCTTCCAAGG AAGATGTTGG ATTACTGATG ACCTTAGCAC CGTTCGTTAA ACCAGAAGTG      9480

ATTTCTTGAT TTTCTGCGTC AGCATTTCCC AATGAAACCT CAACTTTTTT AGCCTTTTGT      9540

TGTTCATCCA CAATCCAGAC ATAATTTTTA CTATCATCCA TTACTAGACT GCTAACAGGA      9600

ACAAGAATAG CCTTAGTTTT GCTTTTAACC TCAATGTTGA CAGAAAAACC TTGTTTCAAA      9660

TCACCAACCT CGCCTGTCAC ATCAATAGTA TAAGGGTATT TAGAACCTGT ATTATTCCCG      9720
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727

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GCTGCTGGAC TAGCTGCTTC ACCATTGTTT TTAGGATAGT CAGAAATATA GCTTAATTTC      9780

CCAGTCCATT TTTTATCAGG ATACACTTTA GAAGTAAAGC TTACTTCTTG ACCTACAGAA      9840

AGGTTGGCTA GATTGTACTC AGACAATTCT CCCTTGACTT GTAAATTTTC ATTGCTGACA      9900

ATATGAACCA TAACTTGACT CGCCCCTGTT GGAGATTTAG AAACATTGCT ATTGACTTCG      9960

ACCACAGTTC CCTCTAGGGT ACTGAGAACA GTTGTTGCAT CCAATTGACT TTGAGCCTTG      10020

CTTAATTGCG CCGCAGCATC TGCACGCGCA TCACGGGCAT CACCCAATTG AGCGTCAATA      10080

GAAGCAACAG AATTTCCAGC CACTGGAGTT GGGCTTTGCA CCGTTGCATC TTCTCCTCCT      10140

ACTGGCGCTG GTAACTGTGG AGCCGGAGCT GAAGCGGCTT CATTTCGTGC TTGATTGAGT      10200

TCATTGATAT GACGATCTGC CCTAGCTACT GCTCGACTAG CTGAATCATA GGCCGCCTGC      10260

GCTTCTGAAC TACTGTACTT GACTAAAGCC TGCCCTTCGC TGACCTTATC GCCCACAGAA      10320

ACAAGGATTT CATCTAAATC ACCCTTACTA GCATCAAAAT AAACATATTG TTCATTTTTT      10380

GCTGTTACTG TCCCTGACAA TAAAACAGAG GAGGCCACGC TTCCTTCCTT GGCAACAACA      10440

AGATGAGTAG GCTCATCTTT TAGAGCAGTC TGAGAAGGTT GTCTAAAGAG TAAAATCCCC      10500

CCAGCACCCA ATACAACTAC ACTCGCAGCA CCGATTGCTG CATACAGTTG CCACTTTTTA      10560

GCTTTACCAT TCTTTTTCTT CATAATGAAA CTCCTTTTCT TTTTTACAAT ACTTTGCTAT      10620

TATACCAAAT TTCCCTCCAG CAAACAATAC AGTTCAGGAT TAAACAATCG TTCGGAATTT      10680

TGCTTTTCGG                                                            10690
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(2) INFORMATION FOR SEQ ID NO: 94:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 8195 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 94:

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GAGAAAGCGC CCACGTTTCC CCGAAGGGAG AAAGGCGGAC AGGTATCCGG TAAGCGGCCA      60

GGGTCGGAAC AGGAGAGCGC AACGAGGGAG CTTCCCAGGG GGAAACGCCT GGTATCTTTA      120

TAGTCCTGTC GGGTTTCGCC ACCTCTGACT TGAGCGTCGA TTTTTGTGAT GCTCGTCAGG      180

GGGGCGGAGC CTATGGAAAA ACGCCAGCAA CGCGGCCTTT TTACGGTTCC TGGCCTTTTG      240

CTGGCCTTTT GCTCACATGT TCTTTCCTGC GTTATCCCCT GATTCTGTGG ATAACCGTAT      300

TACCGCCTTT GAGTGAGCTG ATACCGCTCG CCGCAGCCGA ACGACCGAGC GCAGCGAGTC      360
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728

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AGTGAGCGAG GAAGCGGAAG AGCGCCCAAT ACGCAAACCG CCTCTCCCCG CGCGTTGGCC      420

GATTCATTAA TGCAGCTGGC ACGACAGGTT TCCCGACTGG AAAGCGGGCA GTGAGCGCAA      480

CGCAATTAAT GTGAGTTAGC TCACTCATTA GGCACCCCAG GCTTTACACT TTATGCTTCC      540

GGCTCGTATG TTGTGTGGAA TTGTGAGCGG ATAACAATTT CACACAGGAA ACAGCTATGA      600

CaTGATTACG AATTCGAGCT CGGTACCCGG AAAATCCAGA AAATGCTTGA AAAAAATCCT      660

AGAAGATGGT ATAATACTAA ATTGTAAGGG TTATCACATA TAACTCAAAA AAAGAAAGAA      720

CAAAAGGAGA GTCAAACTAT GGCTTCTAAA GATTTCCACG TAGTGGCAGA AACAGGTATT      780

CACGCACGTC CAGCAACATT GTTGGTACAA ACTGCTAGCA AATTTGCTTC AGATATCACT      840

CTTGAGTACA AAGGTAAATC AGTTAACCTT AAATCAATTA TGGGTGTTAT GAGTCTTGGT      900

GTTGGCCAAG GTGCTGACGT AACTATCTCA GCTGAAGGTG CAGATGCAGA TGACGCTATC      960

GCTGCAATCT CAGAAACAAT GGAAAAAGAA GGATTGGCAT AAGGGAAATG ACAGAAATGC     1020

TTAAAGGAAT CGCAGCATCT GACGGTGTTG CAGTTGCAAA AGCATATCTA CTCGTTCAGC     1080

CGGATTTGTC ATTTGAGACT ATTACAGTCG AAGATACAAA CGCAGAAGAA GCTCGCCTTG     1140

ATGCCGCTCT ACAGGCATCA CAAGACGAGC TTTCTGTTAT TCGCGAGAAA GCAGTAGGTA     1200

CGCTCGGTGA AGAAGCAGCT CAAGTTTTTG ATGCTCACTT AATGGTTCTT GCTGACCCAG     1260

AAATGATCAG CCAAATCAAG GAAACTATCC GTGCGAAGAA AGTGAATGCA GAAGCAGGTC     1320

TGAAAGAAGT TACAGATATG TTTATCACTA TCTTTGAAGG CATGGAAGAC AACCCATACA     1380

TGCAAGAACG CGCAGcGGAT wTCCGCGACG TGACAAAACG TGTATTGGCA AACCTTCTTG     1440

GTAAAAAATT GCCAAACCCA GCTTCTATCA ATGAAGAAGT GATTGTGATT GCGCATGACT     1500

TGACTCCTTC AGATACAGCT CAATTGGACA AAAACTTTGT AAAAGCTTTT GTAACCAACA     1560

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TAGGTACAAA TAACATCACT GAAATCGTTA AAGACGGTGA CATCCTTGCT GTTAACGGGA     1680

TCACTGGAGA AGTGATTATC AACCCAACAG ATGAACAAGC GGCAGAATTT AAAGCAGCTG     1740

GTGAAGCCTA TGCGAAACAA AAAGCTGAAT GGGCACTTTT GAAAGATGCT CAAACAGTGA     1800

CTGCTGACGG TAAAACACTTC GAGTTGGCTG CTAATATCGG TACTCCAAAA GACGTTGAAG     1860

GTGTTAACAA CAACGGTGCA GAAGCTGTTG GACTTTACCG TACAGAGTTC TTGTACATGG     1920

ATTCTCAAGA CTTCCCAACT GAAGATGAGC AGTATGAAGC ATACAAGGCT GTTCTTGAAG     1980

GAATGAACGG TAAACCTGTT GTCGTTCGTA CAATGGATAT CGGTGGAGAT AAGGAACTTC     2040

CTTACTTCGA TATGCCTCAC GAAATGAACC CATTCCTTGG ATTCCGTGCT CTTCGTATCT     2100

CTATCTCTGA GACTGGAGAT GCTATGTTCC GCACACAAAT CCGTGCTCTT CTTCGTGCGT     2160
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729

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CTGTTCACGG TCAATTGCGT ATCATGTTCC CAATGGTTGC GCTCTTGAAA GAATTCCGTG      2220

CAGCGAAAGC AGTCTTTGAT GAAGAAAAAG CAAACCTTCT TGCTGAAGGT GTTGCAGTTG      2280

CGGATAACAT CCAAGTTGGT ATCATGATCG AGATTCCTGC AGCGGCTATG CTTGCAGACC      2340

AATTTGCTAA AGAAGTTGAC TTCTTCTCAA TTGGTACAAA CGACTTGATC CAATATACAA      2400

TGGCAGCAGA CCGTATGAAC GAACAAGTTT CATACCTTTA CCAACCATAC AACCCATCAA      2460

TCCTACGCTT GATTAACAAT GTGATCAAAG CAGCTCACGC TGAAGGTAAA TGGGCTGGTA      2520

TGTGTGGTGA GATGGCTGGT GACCAACAAG CTGTTCCACT TCTTGTCGGA ATGGGCTTGG      2580

ATGAGTTCTC TATGTCAGCA ACATCTGTAC TTCGTACACG CAGCTTGATG AAGAAACTCG      2640

ACACAGCTAA GATGGAAGAG TACGCAAACC GTGCCCTTAC AGAATGCTCA ACAATGGAAG      2700

AAGTTCTTGA ACTTCAAAAA GAATACGTTA ATTTTGATTA ATCGAAAAGT CCCTGCAACT      2760

CAGTTACAGG GATTTTTTTG ATATTTTAAA AAGAATTTTC AAGAAAATCT TTCTTATAGA      2820

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AGTTGGGACT GTATCAAGCT AGAACGGTTA AGGAAAATAA TCGTGTTTCC TATATAGATG      3120

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TACTCATGAA AGATCCAAAC TATAAGCTAA AAGATGAGGA TATTGTTAAT GAGGTCAAGG      3360

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CGGATAACGT CCGTACAAAA GAGGAAATCA ATCGACAAAA ACAAGAGCAT AGTCAACATC      3480

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CTTATATCGT TCCTCATGGA GATCATTACC ATTACATTCC TAAGAATGAG TTATCAGCTA      3660

GCGAGTTGGC TGCTGCAGAA GCCTTCCTAT CTGGTCGAGG AAATCTGTCA AATTCAAGAA      3720

CCTATCGCCG ACAAAATAGC GATAACACTT CAAGAACAAA CTGGGTACCT TCTGTAAGCA      3780

ATCCAGGAAC TACAAATACT AACACAAGCA ACAACAGCAA CACTAACAGT CAAGCAAGTC      3840

AAAGTAATGA CATTGATAGT CTCTTGAAAC AGCTCTACAA ACTGCCTTTG AGTCAACGAC      3900
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730

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ATGTAGAATC TGATGGCCTT GTCTTTGATC CAGCACAAAT CACAAGTCGA ACAGCTAGAG     3960

GTGTTGCAGT GCCACACGGA GATCATTACC ACTTCATCCC TTACTCTCAA ATGTCTGAAT     4020

TGGAAGAACG AATCGCTCGT ATTATTCCCC TTCGTTATCG TTCAAACCAT TGGGTACCAG     4080

ATTCAAGGCC AGAACAACCA AGTCCACAAC CGACTCCGGA ACCTAGTCCA GGCCCGCAAC     4140

CTGCACCAAA TCTTAAAATA GACTCAAATT CTTCTTTGGT TAGTCAGCTG GTACGAAAAG     4200

TTGGGGAAGG ATATGTATTC GAAGAAAAGG GCATCTCTCG TTATGTCTTT GCGAAAGATT     4260

TACCATCTGA AACTGTTAAA AATCTTGAAA GCAAGTTATC AAAACAAGAG AGTGTTTCAC     4320

ACACTTTAAC TGCTAAAAAA GAAAATGTTG CTCCTCGTGA CCAAGAATTT TATGATAAAG     4380

CATATAATCT GTTAACTGAG GCTCATAAAG CCTTGTTTGA AAATAAGGGT CGTAATTCTG     4440

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AATTGGTAGA TGATTTATTG GCATTCCTAG CACCAATTAC CCATCCAGAG CGACTTGGCA     4560

AACCAAATTC TCAAATTGAG TATACTGAAG ACGAAGTTCG TATTGCTCAA TTAGCTGATA     4620

AGTATACAAC GTCAGATGGT TACATTTTTG ATGAACATGA TATAATCAGT GATGAAGGAG     4680

ATGCATATGT AACGCCTCAT ATGGGCCATA GTCACTGGAT TGGAAAAGAT AGCCTTTCTG     4740

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AAGGAAGTAA TCCTTCATCT GTAAGTAAGG AAAAAATAAA CTAATGAAAA ATGAAAGTCT     5460

CGATAAAGAG GCTTTCATTT TTATTATGTA TATATGTAAA ATTCTTGACA AGCAATATTA     5520

AAAAGAGTAA ACTATTAACT AGTTAATTAA CCGGTTTATT ACTTTATAGT GAATCAAATA     5580

TACTTAAGAA AAGAGGAAAG AATGAAAATT AATAAAAAAT ATCTAGCAGG TTCAGTGGCA     5640

GTCCTTGCCC TAAGTGTTTG TTCCTATGAA CTTGGTCGTC ACCAAGCTGG TCAGGTTAAG     5700
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731

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AAAGAGTCTA ATCGAGTTkC TTATATAGAT GGTGATCAGG CTGGTCAAAA GGCAGAAAAC      5760

TTGACACCAG ATGAAGTCAG TAAGAGGGAG GGGATCAACG CCGAACAAAT CGTCATCAAG      5820

ATTACGGATC AAGGTTATGT GACCTCTCAT GGAGACCATT ATCATTACTA TAATGGCAAG      5880

GTCCCTTATG ATGCCATCAT CAGTGAAGAG CTCCTCATGA AAGATCCGAA TTATCAGTTG      5940

AAGGATTCAG ACATTGTCAA TGAAATCAAG GGTGGTTATG TTATCAAGGT AGATGGAAAA      6000

TACTATGTTT ACCTTAAGGA TGCAGCTCAT GCGGATAATA TTCGGACAAA AGAAGAGATT      6060

AAACGTCAGA AGCAGGAACA CAGTCATAAT CACGGGGGTG GTTCTAACGA TCAAGCAGTA      6120

GTTGCAGCCA GAGCCCAAGG ACGCTATACA ACGGATGATG GTTATATCTT CAATGCATCT      6180

GATATCATTG AGGACACGGG TGATGCTTAT ATCGTTCCTC ACGGCGACCA TTACCATTAC      6240

ATTCCTAAGA ATGAGTTATC AGCTAGCGAG TTAGCTGCTG CAGAAGCCTA TTGGAATGGG      6300

AAGCAGGGAT CTCGTCCTTC TTCAAGTTCT AGTTATAATG CAAATCCAGC TCAACCAAGA      6360

TTGTCAGAGA ACCACAATCT GACTGTCACT CCAACTTATC ATCAAAATCA AGGGGAAAAC      6420

ATTTCAAGCC TTTTACGTGA ATTGTATGCT AAACCCTTAT CAGAACGCCA TGTGGAATCT      6480

GATGGCCTTA TTTTCGACCC AGCGCAAATC ACAAGTCGAA CCGCCAGAGG TGTAGCTGTC      6540

CCTCATGGTA ACCATTACCA CTTTATCCCT TATGAACAAA TGTCTGAATT GGAAAAACGA      6600

ATTGCTCGTA TTATTCCCCT TCGTTATCGT TCAAACCATT GGGTACCAGA TTCAAGACCA      6660

GAACAACCAA GTCCACAATC GACTCCGGAA CCTAGTCCAA GTCCGCAACC TGCACCAAAT      6720

CCTCAACCAG CTCCAAGCAA TCCAATTGAT GAGAAATTGG TCAAAGAAGC TGTTCGAAAA      6780

GTAGGCGATG GTTATGTCTT TGAGGAGAAT GGAGTTTCTC GTTATATCCC AGCCAAGGAT      6840

CTTTCAGCAG AAACAGCAGC AGGCATTGAT AGCAAACTGG CCAAGCAGGA AAGTTTATCT      6900

CATAAGCTAG GAGCTAAGAA AACTGACCTC CCATCTAGTG ATCGAGAATT TTACAATAAG      6960

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AAACCAAATG CGCAAATTAC CTACACTGAT GATGAGATTC AAGTAGCCAA GTTGGCAGGC      7200

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GATGCCTATG TAACTCCACA TATGACCCAT AGCCACTGGA TTAAAAAAGA TAGTTTGTCT      7320

GAAGCTGAGA GAGCGGCAGC CCAGGCTTAT GCTAAAGAGA AAGGTTTGAC CCCTCCTTCG      7380

ACAGACCATC AGGATTCAGG AAATACTGAG GCAAAAGGAG CAGAAGCTAT CTACAACCGC      7440
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GTGAAAGCAG CTAAGAAGGT GCCACTTGAT CGTATGCCTT ACAATCTTCA ATATACTGTA      7500

GAAGTCAAAA ACGGTAGTTT AATCATACCT CATTATGACC ATTACCATAA CATCAAATTT      7560

GAGTGGTTTG ACGAAGGCCT TTATGAGGCA CCTAAGGGGT ATACTCTTGA GGATCTTTTG      7620

GCGACTGTCA AGTACTATGT CGAACATCCA AACGAACGTC CGCATTCAGA TAATGGTTTT      7680

GGTAACGCTA GCGACCATGT TCGTAAAAAT AAGGTAGACC AAGACAGTAA ACCTGATGAA      7740

GATAAGGAAC ATGATGAAGT AAGTGAGCCA ACTCACCCTG AATCTGATGA AAAAGAGAAT      7800

CACGCTGGTT TAAATCCTTC AGCAGATAAT CTTTATAAAC CAAGCACTGA TACGGAAGAG      7860

ACAGAGGAAG AAGCTGAAGA TACCACAGAT GAGGCTGAAA TTCCTCAAGT AGAGAATTCT      7920

GTTATTAACG CTAAGATAGC AGATGCGGAG GCCTTGCTAG AAAAAGTAAC AGATCCTAGT      7980

ATTAGACAAA ATGCTATGGA GACATTGACT GGTCTAAAAA GTAGTCTTCT TCTCGGAACG      8040

AAAGATAATA ACACTATTTC AGCAGAAGTA GATAGTCTCT TGGCTTTGTT AAAAGAAAGT      8100

CAACCGGCTC CTATACAGTA GTAAAATGAA TGGAGCATAT TTTATGGAGA AGTAACCTTT      8160

CGTGTTACTT CTCTTTTTTA GAAAAACGTA ACAGA                                 8195
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(2) INFORMATION FOR SEQ ID NO: 95:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2004 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 95:

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TTTACTAAAA GGAAAAAAGA ACTGATTTCT CAGTCCTTCA TTAATCTTAT TCCACACTAA       60

ATAGGTATGG GTAAACAGGT TGTTGACCTT GGTGAATCTC GACTTCAACG TCTTCGAATT      120

CTTCTACGAT TTCTTGAGCG ATTTCATTGG CAAGTTCTTC GCTTCCGTCT TCACCTACAT      180

AGAAGGTTAC GATTTCACTG TCTTCATCCA ACATATGTTT CAAGGTTTCA GTCAATGTTT      240

GGTGCATATC AGGGTTTGAC ACAAGAATTT TTCCATCCAC CATACCTAAA TTATCGTTTT      300

CATGGATTTC TAAGCCATCG ATCGTTGTAT CACGCACGGC TGTTGTGACG CTTCCGCTAA      360

CGACATCGCT AAGAGCAGCT GTCATACGCT CTTGGTTTTC TTCAATGGAC TTGCTTGGAT      420

CAAAGGCAAG AAGACTTGTC ATACCTTGAG GAAGAGTGCG AGCCTCTACC ACTACCGCTG      480

GTTGCTCCAA AACTTCTGCC GCAGATTGAG CTGCCATGAA GATGTTCTTG TTGTTTGGCA      540

AGAAGATGAT GTTACGGGCA TTAACCTGTT CAACAGCCTT GATAAAGTCT TCTGTTGAAG      600

GGTTCATGGT TTGACCGCCT TCGATAACAT AATCCACGCC TTGAGAACAG AAGATATCTG      660
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733

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CTAGACCTTT ACCAGCCACC ACAGCAATCA AAGCATACTC TTTTTCTTCA GCCGACTTGA      720

TAACTTGAGT AGCTTCTTTC TCAACCTGTG CTTCGTGTTG GTTACGCATA TTGTCAACTT      780

TTACCTTGAC CAAGCTACCA TATTTGAGAC CTTCTTGCAT AACAAGTCCT GGATCTTCTG      840

TATGAACATG GACTTTGACA ATTTCATCAT CGTTAACAAC AAGGAGAGAA TCTCCAAGCT      900

CATCCAAGTA GTTACGGAAT TCATCGTAGT CAAAATCTTT AGCATAGGTT GGACCTTGCT      960

TAAGAGCTAC CATGATTTCA GTACAGTAAC CAAACGTGAT GTCCTCAGTC GCTACGTGAC     1020

CAGCTACAGA CTTATGATGC TCTACATTGA TCATCTCACT CATGTTGGCA GGAGTCGCTA     1080

CAAAGTCCTC AGATGCAATA TATTCGCCAG TAAGGGCTGA AAGGAAACCT TCGTAGATGA     1140

AGACCAATCC TTGACCACCT GAGTCCACAA CGCCAACTTC TTTCAATACT GGAAGCATGT     1200

CTGGTGTTTT AGCTAGAGCT GTTTTAGCAC CTTCCAAGGC TGCGCGCATG ACTTCAACAG     1260

CGTCATCTGT TTGCTCAGCT TTTTTCTTAG CACCGATAGC AGCTCCACGA GAAACTGTTA     1320

AAATCGTTCC TTCAACAGGT TTCATCACTG CCTTATAGGC AACTTCCACA CCTGATTGGA     1380

AGGCCAGAGC CAAGTCTTGA CCTGTTAACT CGTCTTTATC CTTGATAGCT TGGGAAAATC     1440

CACGGAAAAG CTGAGACGTA ATCACTCCTG AGTTCCCACG CGCACCCATC AAAAGCCCTT     1500

TGGCAAGAAT GCTCGCTACT TCTCCAACTG TAGAAGCTGG CTTGTCTGCA ACTTCTTTAG     1560

CACCATTTTC AATGGTCATT CCCATATTTG TCCCAGTATC TCCATCTGGA ACTGGAAAGA     1620

CGTTTAATGA ATTGACATAT TCAGCTTGCT TATTCAAGCG AGTTGATGCA GCCTGCACCA     1680

TTTCTTGAAA TAAGCTAGTA GTAATTTTTG ACACGGTTAT TCTCCTACAA CTTTGATATT     1740

TTGAATGTAG ACATTTACAG TCTGAGCAGT AATTCCAAGC TGGTTTTCCA AGCTAAAGGC     1800

AACACGCTCT TGAATGTTTT TTGACACTTC ACTAATCTTT GTTCCGTAGC TTAACACGGT     1860

ATATACATCA ACTGCAATAC TGCCATCTTC GGCTGCCTTT ACGACGACAC CTTTAGAATA     1920

ATTTTCCTTA CCTAGCAGGG CTTGGAAATT ATCTTTGAGG GCATTTTTAC TAGCCATACC     1980

GACCACACCA GAAATCTCAG TTGC                                          2004
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(2) INFORMATION FOR SEQ ID NO: 96:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 11915 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 96:

734

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CCGGGTTGGG CTGTTCGCCC ATTAAAGCGG CACCACAGCT GGGTTCAGAA CGTCGTGAGA    60

CAGTTCGGTC CCTATCCGTC GCGGGCGTAG GAAATTTGAG AGGATCTGCT CCTAGTACGA   120

GAGGACCAGA GTGGACTTAC CGCTGGTGTA CCAGTTGTCT TGCCAAAGGC ATCGCTGGGT   180

AGCTATGTAG GGAAGGGATA AACGCTGAAA GCATCTAAGT GTGAAACCCA CCTCAAGATG   240

AGATTTCCCA TGATTATATA TCAGTAAGAG CCCTGAGAGA TGATCAGGTA GATAGGTTAG   300

AAGTGGAAGT GTGGCGACAC ATGTAGCGGA CTAATACTAA TAGCTCGAGG ACTTATCCAA   360

AGTAACTGAG AATATGAAAG CGAACGGTTT TCTTAAATTG AATAGATATT CAATTTTGAG   420

TAGGTATTAC TCAGAGTTAA GTGACGATAG CCTAGGAGAT ACACCTGTAC CCATGCCGAA   480

CACAGAAGTT AAGCCCTAGA ACGCCGGAAG TAGTTGGGGG TTGCCCCCTG TGAGATAGGG   540

AAGTCGCTTA GCTCTAGGGA GTTTAGCTCA GCTGGGAGAG CATCTGCCTT ACAAGCAGAG   600

GGTCAGCGGT TCGATCCCGT TAACTCCCAT TTTAGCGGGT GTAGTTTAGT GGTAAAACTA   660

CAGCCTTCCA AGCTGTTGTC GCGAGTTCGA TTCTCGTCAC CCGCTTTGAA CTTTGTTCTT   720

TGTACCAAGT TTTTGACTTG GGCGCGTAGC TCAGGTGGTT AGAGCGCACG CCTGATAAGC   780

GTGAGGTCGG TGGTTCGAGT CCACTCGTGC CCATAGTGTT TAGTCCATTA CTAGGGGATT   840

GGAATATTAT CTGTTCACTA AGAGGACACG GGCTTGTTCC CGTATAAACT ATTTTGGAGG   900

ATTACCCAAG TCCGGCTGAA GGGAACGGTC TTGAAAACCG TCAGGCGTGT AAAAGCGTGC   960

GTGGGTTCGA ATCCCACATC CTCCTTTTAT ATTAACGCGG GATGGAGCAG CTCGGTAGCT  1020

CGTCGGGCTC ATAACCCGAA GGTCGTAGGT TCAAATCCTG CTCCCGCAAT AAGGCTCGGT  1080

AGCTCAGTTG GTAGAGCAAT GGATTGAAGC TCCATGTGTC GGCGGTTCGA TTCCGTCTCG  1140

CGCCATTTAT ATATTTTGGA AGGGTAGCGA AGAGGCTAAA CGCGGCGGAC TGTAAATCCG  1200

CTCCTTCGGG TTCGGGGGTT CGAATCCCTC CCCTTCCATT TTACGGGCAT AGTTTAAAGG  1260

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CTTTGACTCC CTCATGCGTT GGTTCGAATC CAGCTACCCC AGTTACTATT TGCCGGCGTG  1500

GCGGAATTGG CAGACGCGCT GGACTCAAAA TCCAGTGTCC GCAAGGACGT GCCGGTTCGA  1560

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TTATTTTTGG TATAATTATA GTTATTCAAA TTTTATTTAG ATTAAGAAAG TGTAGGGGAG  1680

TATGTCTTGT TCTATCGATT TATTAAAACA TCGGTATTTG AAAAATATTA AAGAAAATCC  1740

TGAATTGTTT GTCGGAATTG AGTTGGAGTA TCCTGTTGCA AGTTTAGAAG GGGATGCTAC  1800
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735

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AGATGTTGAA GTTATGAAGG ATCTATTTCA TTATTTAGTT TCTACTTTGG ATCTCACCGT      1860

AGCAAAGGTA GATGATTTTG GCAATCTGAT CCAGTTAGTA GATCCGATAA GTCAGGATGC      1920

TATTTTATTT GAAGTTTCCT ATACAACGAT TGAGTTTGCA TTTGGTAAGG CTGAAACGAT      1980

TCAAGAGGTC GAAAATCGTT TCAATAATTA TATGAATGTA ATTCAGAGAA AGTTAGCTGA      2040

ATCAAATCAT GCTATTGTTG GCTGTGGTAT CCATCCCAAC TGGGATAAAA ATGAGAATTG      2100

TCCAGTGGCT TATCCACGCT ATCAGATGTT GATGGATTAT TTGAATTTGA GTAGAAATAT      2160

TATTAAATCA GATTTACATC ATTTCCCTGA ATATGGTACT TTTATCTGTG GGAGCCAGGT      2220

TCAGCTGGAT ATTTCAAAAA CCAACTACTT ACGGGTGATT AATGCTTTTA CTCAAATTGA      2280

AGCGGCTAAG GCTTATTTAT TTGCAAACTC TGAATTTTCG GGTGCGGATT GGGATACGAA      2340

AATTTCAAGG GATATTTTCT GGGAAGAATC TATGCATGGT ATCTATCCAG AGAATGTTGG      2400

GGTCAATGCT AGACTCCTTA ATGATGAAAC TGATTTTTTT GACTATCTAA ATCATTCTGC      2460

GATTTTTACT GCGGAACGTG ATGGGCAGAC CTATTATTTT TATCCTATTC AGGCTGGGGA      2520

CTATTTGGCT ACGTCCGAAA TCCAAGCATT TGCTCTGAAT GGGGATGAGG TTATTATTTA      2580

CCCCCAAGAG AAGGATTTTG AAACTCATCG TAGTTACCAG TACCAAGATT TAACGACTCG      2640

AGGAACAGTT GAGTTTCGTA GTGTGTGTAC ACAGCCACTT GATAGGACTT TTGCTTCTGC      2700

AGCTTTTCAC TTGGGATTAT TGGTTAATTT AGACAAGTTA GAAGCTTACT TAGAAACAGC      2760

ACCTTTCTTT AAAGTATTTG GTTATGATTA CAAGTCTTTA AGGAGACAAT TTTCTAAGAA      2820

AAATCTTACA GATGAGGAAG AAACTACGAT TATTGAATTT TCCAAAGACT TACTCCTACT      2880

AGCTGAGGAG GGACTAGTGG TGAGAAATAA GGAAGAAATG ACCTATTTAC AGCCTTTGAG      2940

AGAAGAATTG AGCCTATAAT TTCTCTTATA AAGGGAGAAT TTTCTGAAAA ATCATGATAT      3000

AATGGACGAG ACTATAGATA AAGGATAGAG AGTAATGACA TTAGTTTATC AATCAACGCG      3060

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TGCACCATTA GTGAAATTAG ATGGGCAATA CAATTTGGAA CTTTTCCATG GTTCAACGAT      3360

TGCCTTTAAG GATATGGCCT TGTCTATTTT GCCATACTTT ATGACGACTG CTGCTAAGAA      3420

ACATGGTTTG GAGAACAAGA TTGTTATCTT GACAGCGACA TCTGGTGACA CGGGGAAAGC      3480

TGCTATGGCG GGGTTTGCGA ATGTGCCTGG TACTGAGATT ATCGTCTTTT ATCCAAAGGA      3540
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                                        736
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TATTGCTATT GATGGTAACT TTGACGATGC GCAAACAAAT GTGAAGCACA TGTTTAACGA      3660

CGTGGCTCTT CGTGAAAAAT TGACTACCAA CAAGTTGCAA TTTTCATCAG CTAACTCTAT      3720

GAACATTGGT CGTCTGGTGC CACAAATTGT TTATTATGTT TATGCTTACG CTCAATTGGT      3780

TAAGACTGGT GAAATTGTAG CTGGTGAAAA GGTTAACTTC ACAGTACCAA CAGGAAACTT      3840

TGGAAATATC TTGGCTGCCT TTTATGCCAA ACAAATTGGT TTGCCAGTTG GTAAATTAAT      3900

CTGTGCTTCA AATGACAACA ATGTTTTGAC AGACTTCTTT AAAACACGTG TCTATGACAA      3960

AAAACGTGAG TTTAAGGTAA CAACCAGCCC ATCTATGGAT ATCTTGGTAT CTTCAAACTT      4020

GGAGCGCTTG ATTTTCCATC TTTTGGGAAA TAATGCTGAA AAGACAACTG AACTTATGAA      4080

TGCCTTGAAC ACGCAAGGAC AATATAAGTT GACAGACTTT GATGCAGAGA TTTTGGACCT      4140

CTTTGCAGCT GAATATGCGA CTGAGGAAGA AACGGCAGCA GAGATCAAGC GTGTTTGTGA      4200

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CCAATCGGCC ACTGGAGATG TAACTAAGAC AGTGATTGCT TCAACAGCTA GTCCATACAA      4320

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AATAGCTCCA ATTCGTCACA AGACAACAGT GGCAGCTGCT GACATGCAAG CAGCGGTTGA      4500

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ATTAAGTTTC CTTTTAGGAT TTTTGTCCAT CTTCGCTGGG AAAGAGATGA TAGGACTTÏT      4920

GGGGACGGAG AGGGATGTAG CTGAGAGTGG TGGACTGTAT CTATCTTTGG TAGGCGGATC      4980

GATTGTTCTC TTAGGTTTAA TGACTAGTCT AGGAGCCTTG ATTCGTGCAA CGCATAATCC      5040

ACGTCTGCCT CTCTATGTTA GTTTTTTATC CAATGCCTTG AATATTCTTT TTTCAAGTCT      5100

AGCTATTTTT GTTCTGGATA TGGGGATAGC TGGTGTTGCT TGGGGGACAA TTGTGTCTCG      5160

TTTGGTTGGT CTTGTGATTT TGTGGTCACA ATTAAAACTG CCTTATGGGA AGCCAACTTT      5220

TGGTTTAGAT AAGGAACTGT TGACCTTGGC TTTACCAGCA GCTGGAGAGC GACTTATGAT      5280

GAGGGCTGGA GATGTAGTGA TCATTGCCTT GGTCGTTTCT TTTGGGACGG AGGCAGTTGC      5340
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737

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TGGGAATGCA ATCGGAGAAG TCTTGACCCA GTTTAACTAT ATGCCTGCCT TTGGCGTCGC    5400

TACGGCAACG GTCATGCTGT TGGCCCGAGC AGTTGGAGAG GATGATTGGA AAAGAGTTGC    5460

TAGTTTGAGT AAACAAACCT TTTGGCTTTC TCTGTTCCTC ATGTTGCCCC TGTCCTTTAG    5520

TATATATGTC TTGGGTGTAC CATTAACTCA TCTCTATACG ACTGATTCTC TAGCGGTGGA    5580

GGCTAGTGTT CTAGTGACAC TGTTTTCACT ACTTGGGACC CCTATGACGA CAGGAACAGT    5640

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TAATCAAGTG ACCGTTGATG ATCAAACTGT TCAGGTTGCA GACCTTTCTC AACCAATTGC    7080
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738

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AGAAGTTACA AAGACAGTGA TTGCTTCTGA AGAAGTGGCA CCATCTACGG GCACTTCTGT    7140

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TTCTACTTAT CAACCAGAAG AGACGAAAAT AATTTCAACA ACTTACGAGG CTCCAGCTGC    7380

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AGTATTGCCA CGCAATCAGA TGCGACTAGT CGTGTATTTA ATATGGAAAA GGAAGAATTG    8640

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TTATTTGTGA TTGGTGCTGC GACTTACGGC TCTTTAACAG CGGATAAAAA AATTATTTTG    8820

AAACAAGGTG GATCAGCTAT TTTGGCCTTG ATTAGTATTT TACTCTTTAA ATACACTTGA    8880
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739

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AGGTCGATTC TAATCTCGCT AATCCTTTTT AATCCAGAAT AAGGGAAATA TGTTATACTT    8940

GTTTTTAAGA AAAAAGTCTC ATTGAATTGG TTTTGAGGAG TTAGAAATGA AAGTATTAGT    9000

GACAGGTTTT GAGCCCTTTG GAGGGGAAAA GGGCAATCCA GCTTTGGAGG CCATTAAAGG    9060

TTTACCAGCT GAAATCCATG GTGCTGAGGT CCGTTGGCTA GAGGTGCCGA CAGTTTTTCA    9120

CAAATCTGCT CAAGTATTGG AAGAAGAGAT GAATCGTTAT CAACCTGACT TTGTCCTTTG    9180

TATTGGGCAA GCTGGTGGAA GAACTAGTTT GACACCTGAA CGAGTGACCA TTAATCAAGA    9240

CGATGCATGC ATTTCTGATA ACGAAGATAA TCAACCGATT GACCGTCCCA TTCGCCCAGA    9300

TGGTGCTTCG GCCTACTTTA GTAGTTTGCC GATTAAAGCG ATGGTTCAAG CTATAAAAAA    9360

AGAGGGCTTA CCGGCCTCTG TTTCCAATAC GGCAGGGACT TTTGTCTGCA GCCATTTGAT    9420

GTATCAGGCT CTCTATTTGG TAGAAAAGAA ATCTCCATAT GTTAAGGCAG GTTTTATGCA    9480

TATTCCTTAT ATGATGGAAC AGGTGGTGAA CAGACCGACT ACTCCAGCTA TGAGTTTAGT    9540

GGATATTCGG CGAGGGATAG AAGCAGCAAT CGGCGCTATA ATAGAACATG GAGATCAGGA    9600

ACTCAAGTTG GTAGGCGGAG AAACTCATTG ATAGAAAAAA GCTTGAGGGG AAAAACCTTC    9660

AAGCTTTTGG ACGTTTTCGG GCCAATACTG CTCGGTAAAA CATAATTTTA GTGCATTGGA    9720

TATAAGGTAG GAGTGAAAAA CTAGCAATGC CAAAGGTAAT CCAATTGAGG AAGTACCAAG    9780

GAAGAAGCTG TAAATCTAGG ACAAAGTGCT GGAACTTGTA GCCCTTCATA AAGGAACGCC    9840

TAGTTTTTAG GATTCGTCTT GGTGGGACCT GTCCTAGGTC TAGACTATAA CAGAGAAGAA    9900

ATTCCACCTG TGAATAGGCA TAATACTGTG GAATATAGAG GATATTTCCT ACAATGATCA    9960

AGATGAGACT TGCAAGAAAG TAGAGTCCAA AGACCATGAG GAAACGCTCG GTTTCAACTG   10020

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TACTATAAAA GAGGAGGTAA ATCCCAAGTA AATTAGGGAT ACTCCATAAA AAGAGATAGA   10140

AACGTTTGAG AAGTAGGGTC AAAAAGGTTT GAGAAAAGCG CTCCTCATCA AAGAGAGCTA   10200

GGCTGTTTTT TACAGATGGC TCCGTTTTAG AATCTTTCAT GAGTGTCAGT GTTGCATAGA   10260

CGGAACTGGT CAAAAGAATA GTCCCGATAA AGGAGACTAG TAGAGGAAAG AGGTAGGTTT   10320

GAAGTATTTG GCCAAGTATG CTGAAAAATG GCTGTTCTAA AACAGTCCCG TGGATCCGAG   10380

ATAAGGGATT AAGAAAACCA GATAAGATGA CCAGCATACT GGGAAGGATA TAGAGGAGAA   10440

AGAGACGGGG GGTGTCAGCC TGAAAATGTT TTGACTCCTG ACGAATTGTT TTTAAATCAA   10500

TTTTTGGATA GTTCATTCTC TTATTATACC ATAGTTCTTA TACATAGTTC GTGACAGTTC   10560

CTACTTTTTT TGATAAAATC ATACAGTGTG TCCTTGGGCA CACTGTATGA ACTGGGACTG   10620
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740

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TCTTTCCCAG CTTCGGAGGT AAAAAATGTC AGATTCACCA ATCAAATATC GTTTGATTAA    10680

GAAAGAAAAA CACACAGGAG CTCGTCTGGG AGAAATCATC ACTCCCCACG GTACCTTTCC    10740

GACACCTATG TTTATGCCAG TTGGGACACA AGCCACTGTC AAAACTCAGT CACCTGAAGA    10800

ATTGAAGGAG ATGGGTTCGG GAATTATCCT ATCAAACACC TATCATCTCT GGCTTCGCCC    10860

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TATCTTGACA GATAGTGGTG GTTTTCAGGT TTATTCTTTA GCAGATAGCC GTAATATCAC    10980

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TCCTCAGTTT TATCAACCTT ATGACTACGT TAAGAAATCG ATCGAGCGTA CCAGCCGTTG    11160

GGCTGAGCGT GGTTTGAAGG CTCACCGTCG TCCACATGAC CAAGGTTTGT TTGGAATTGT     11220

GCAAGGTGCA GGATTTGAAG ACCTTCGCCG CCAATCAGCT CATGATCTTG TCAGCATGGA    11280

TTTCTCAGGC TACTCTATCG GTGGTTTGGC AGTGGGAGAA ACCCATGAAG AGATGAATGC    11340

GGTCTTGGAC TTTACAACTC AACTGCTGCC TGAAAATAAA CCTCGTTATC TGATGGGTGT    11400

GGGAGCGCCA GATAGCTTGA TCGATGGGGT CATTCGTGGG GTGGATATGT TTGACTGTGT    11460

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GAAAAATGCC CAGTTTGCTG AGGACTTTAC GCCACTGGAT CCTGAGTGTG ATTGCTACAC    11580

ATGTAATAAC TATACACGCG CTTACCTTCG TCACCTGCTC AAGGCTGATG AAACCTTTGG    11640

TATCCGCTTG ACTAGCTACC ACAATCTTTA CTTCTTGCTT AACCTGATGA AGCAAGTGCG    11700

ACAAGCCATC ATGGATGACA ATCTCTTGGA ATTCCGTGAG TATTTTGTGG AAAAATATGG    11760

CTATAATAAG TCAGGACGTA ATTTCTAAAA TGGAATTGAT ATAAAAAAAT CCTAAGTTTT    11820

CTCTTAGGAT TTTTCTTCTT TTTTTGATAG AATAAAGTGT ACAATGAAAG GAAGAATAAA    11880

CTCGTATGCG CATTAAATGG TTTTCCTCGA TTAGG                              11915
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(2) INFORMATION FOR SEQ ID NO: 97:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 9069 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 97:

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GAGAGGGCAA CAGTTCTATC GCTTCAAATT TTTTCTTGGT TTGCAGATAT TCAAGAATCG      60

GGAGTTTTTC TATAGTATTC GGCAGATTTA TTACAGCCAA GCATCTCAAA AATACGGACA     120
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741

GCATCCTCCA TCTTTTTCTG GCCTTCCTTG ACTCTACCTT GCTTGCTATC AAGGAGACCT   180

TCTGCCCACA GATAAACAAT TCGGAAATAG GTCTCATTTT CCTTGTAGAA ATGCTCTTCG   240

ATAACACGTT TAAAATAATA GGCATTGGTA AATTCTTCAC ACTCAATACT AGCTAAAAAG   300

CCATTCAATA GTATAGTATG AAAAAGGTTT CGATTGCCAG ACATTTCCAT TAGAAAATCA   360

GATTTACGTA CCATTTCTCG TACATATCTA GTAAAAAGAG AAACAGATAA AAATGGAGAA   420

CTGACTGAAA ATAAATTGAG TTCATAGATT CCCCAGATCT CGGTAGAAAA CAAATAATCA   480

TGAAGGACTT TTCCTTCCTC TGCTGTTAAG TCTACCCTTT CATCTATGCT CTTCATATAA   540

GACTTGATAA TAATGGCATT TAGAATATGT TTCTGTTTGT TGTGAGAATG GGCATGCTTT   600

TATACTCCCT GCGATATAAG TCCTCAAGAG GTGCTATATT CTTTGGTTCC AAGACATCTG   660

TAATTTCTTT TCTCAACTCA GAATCTGTAT CATACTGGAA ACCTCTTGCC AGAAAGAGGA   720

TCTCCTCCAC ACTGGCAGAT ATATTTTCCA GAGCAAATAG AAACTTTTCC ACCGAAAGCT   780

CACTCTGACC TGTTTCAAAA CGGGACAACA TAGACGGCGA AAATTGTCCT CCGGTTGCTT   840

GTCTCAGTGA GATATTTCTT GACTCTCGTA ATTGTCTAAA GACTTTTCCA ATCTGCTCCA   900

TAGACTTCCC CTTGATTCCG TATTTTCTTC ATTTTATCAT ATTTTTCAGA AAATTCATCA   960

AAAACTTGCC AAATTGTCAG AATTATGAGA AAATAGAGGA TATTTATCAC GTGGAGGGAC   1020

TGCTATGAGA GACGATATCA AAATCAATGA CCGTGCTTTG GCCTTGCAAG ACCAAATTAT   1080

CGAAAAACTA GAGAAAGTTT TTGATACAGA TGTGGAATTG GATGTTTACA ATCTAGGTCT   1140

GATTTATGAA ATCAATCTGG ATGAAACGGG GCTCTGCAAG ATTGTCATGA CCTTCACCGA   1200

TACTGCCTGT GATTGCGCCG AAAGCCTGCC TATTGAAATC GTGGCAGGTC TGAAACAAAT   1260

CGAGGGTATC AAAGATATCA AGGTTGAAGT TACCTGGTCG CCTGCTTGGA AAATCACACG   1320

AATCAGTCGC TATGGCCGTA TTGCCCTTGG ACTACCACCT CGTTAAGCAG ACCAATCACT   1380

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TAGAACTGAC GAAGTCAgCT CAAAACACTG TTTTGAGGTT GTGGATAGAA CTGACGAAGT   1560

CAGCCCAAAA CACTGTTTTG AGGTTGTGGA TAGAACTGAC GAAGTCAGTA ACCATACCTA   1620

CGGCAAGGCG ACGTTGACGT GATTTGAAGA GATTTTCGAG TATGAGTTTA TTTTTTACCT   1680

GACTTGTCCA TATTCCAGAA GTCTGTCACG GCTCCGCGTG AAGCAGATGA TACGATGTGG   1740

GCATATTTAC CGAGGACACC ACGGCTGTAA AGTGGTGGCA AGGTTGTTTC TGCCTTGCGT   1800

TTTTCAAGTT CTTCTTCGGA TACGGCCATA GAAATTTCTT TGGTATCTTG GTCAACCGTA   1860

742

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ACGATATCGC CGGTACGGAG ATAGGCAATT GGTCCACCAT CCTGAGCTTC AGGAGCGATA    1920

TGTCCAACAA CCAGACCATA AGTACCACCA GAGAAACGTC CGTCCGTCAA GAGGGCCACC    1980

TTATCTCCCT GACCTTTACC AACAATCATT GAAGAAAGTG ATAGCATCTC AGGCATACCA    2040

GGACCACCTT TAGGTCCAAC AAAACGAACA ACGACTACAT CGCCATCAAC GATTTCATCT    2100

GTCAGAACGG CCTGAATCGC ATCTTCTTCT GAGTCAAAGA CCTTAGCTGG CCCAACGTGA    2160

CGACGCACTT TAACACCTGA TACCTTGGCA ACTGCACCGT CAGGAGCAAG GTTCCCGTTC    2220

AAGATGATAA GCGGACCATC CGCACGTTTT GGATTTTCAA GTGGCATGAT AACTTTTTGG    2280

CCTGGAGTCA AGTCTGCAAA GTCAGCCAAG TTTTCAGCTA CAGTCTTACC AGTACATGTG    2340

ATGCGATCTC CGTGAAGGAA ACCATTTGCC AACAAATACT TCATAACCGC AGGGACACCA    2400

CCGACTTCGT AGAGGTCTTG GAAGACATAC TGACCAGATG GTTTCAAGTC GGCCAAGTGA    2460

GGCACACGTT CTTGAATCGT ATTGAAGTCC TCAAGTGACA AGTCAACATT TGCGGCATGG    2520

GCAATGGCGA GCAAGTGAAG AGTGGCGTTT GTAGAACCAC CGAGAGCCAT CGTTACAGTG    2580

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ATCTTAACAA CAGCACGTCC TGCTGCTTCG ATATCTTCTT TCTTATCAGC TGATTCAGCT    2700

GGGTGAGAGG ATGACCCTGG CAAACTCATC CCTAGAACTT CGATAGCAGT TGCCATGGTA    2760

TTAGCAGTAT ACATACCACC ACAACCACCA GGGCCAGGGC AGGCATTACA TTCAAGACGT    2820

TTCACGTCCT CAGCTGTCAT GTCACCGTGG TTCCATTTTC CGATACCTTC AAAGACAGAA    2880

ACCAAGTCGA TATCTTTACC ATCAAGATTT CCCGGTGCAA TAGTTCCACC ATAGGCGAAA    2940

ATAGCTGGGA TATCCATATT AGCAATAGCA ATCATAGATC CAGGCATGTT CTTGTCACAG    3000

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GCGATGATGT CACGAGATGT TAGAGAGAAA CGCATACCAG GCGTTCCCAT AGCGATCCCG    3120

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GAAATCACTC CCACAATCGA TGTTTCAAAG TCCTTATCTG TCATACCAGT CGCACGAAGC    3300

ATAGCACGGT TAGGTGATTT AACCATGCTG TCATAAATGC TACTGCGGTG ACGTTTATCT    3360,

AATTCAGTCA TCTTATCCCT CCCATTTCAG TTTTTACTAT TATAGCACAA TTTTCGCATG    3420

AAGAACAGAA TAAAATTCTT GAATTTTCAG AAAATTCTAT ACACATGTGA AATATTTAAA    3480

ATTAAAAACA ACAAAGCGGA TTAGTGCACT TTCTGATGAC CAGAATATGC TTTTTAATCC    3540

GCTTTCTTTA AATAACGTAC TGTAATTTTT ACAGAAATTC TTTCAAATAA GTGTATTTAA    3600

CATCTATCTT GCATTATAAA TTTCTAGAAC CTTCTCTTTT ATATTCGATT CACTCAAACC    3660
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743

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ATACTCATTA AGAAGATAAT CCATTTTCCC TACTTGACCG AATCTTTCTT GAACACCCAT     3720

CCGATGAATT TTTGTTATTC CATCATCAGA GAATAATTCA CATAAAGCAC TGCCAATTCC     3780

ACCTATCTGA TTGTGGTTTT CTACAGTAAA TATAGTTTTT CCACTTAACA TTGTTTTTAT     3840

CTGTTCTGGT ATCGGTTTGA TTCTAAATAA ATCTATCACA CCTACTGAAT AACCTAATTT     3900

AGACAGTTCA TCTGCAACTC GAATACTTGG AGCAACCATT ATGCCAGAAG CAACGATTAC     3960

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CACAGGAACT GGAGCTTTTC TAATTGTTCG AATATATTTT AGTCCTTTTA AGTCTAATGT     4080

CTGGTTCAAT ATTTCACGAA ATTGGATATC ATCAGTTGCT TCGAAAATGA TTGATTTAGG     4140

AATTAAACGT AACAATCCAA TTTCTTCAAA TGGCATATGT GTTCCACCAT TCATCTCTGC     4200

CGTTACTCCT GCATCTGATC CAATCACAGT GGCATCCAAT TGTGCGTATC CAAGAGAAAT     4260

AAATAATTGA TCAAATACTC TTCGTGAAGC AAAAGGACCA AATGTATGAA GATAAGGTCT     4320

AAACCCCTGA ATAGACAAGC CTGCTGCAAG GCCGACCATT TCTGCTTCCA TAATCCCAAC     4380

ATTCACATAA CGGTCTCCAA AGTCCTTTTC AAGATTATTA GTAGCCATCG AACTTGACAA     4440

ATCGGCTTCT AAGACTACTA TATCAGAATC ACTTTGATTA GCCTCTAAAA GGAAGTCTCT     4500

ATATACATGC CGTAATTCTT TCGTACTTCT CATCATTCTG TTTCCTCCAA TTCCTGACTT     4560

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TTGGATTTCA TTTCTTCCAG CTCTTGAACC CCTTGACCTT TAATAGTATC TAATACAATG     4680

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ATATCTATGC CTGGCGTTAG ATTTCTATCA GGATGAGACG GTAATTTGGT TCCATTTGTA     5100

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GCTGGTCCTC CGTGACCTTT TGATAATATG AAATAATCTC TATCTCGTGC TGCAAATATT     5220

TCTGGAGTCA TTGGCATTAT TTCACCATAA AGCACCGCTA AAACTTCTAC GATAGACAGA     5280

CTTCCTCCGT AATGTCCGAA TCCAAGATGA TTCAATGTTC TAAGAGTATT TAATCGGATG     5340

TTAGTCGCAA ATTTTCTTAA CCCATCTTCT CTATTTTTAC TTAAAATCAT CCCTTATTCC     5400
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744

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TCCGTTGCAG ATGGCTTTTT AATAAAGGAT ACTCCAAACA TAACTGCTAG AATAAGAACA       5460

AGACCAATCA CAATGCCTGC TTGTGAGCCA AATTGATTTA ACATTCCTAA AATAATTCCT       5520

GATAGACCAA AATCTGCATC TGAGAAAGTT GATCCTTGGA AACCAAGTCC TCCCAAAACT       5580

GGCATTAAAA AGACTGGAAG AAAACTGATT AAAATACCTT GTAAAAATGC TCCAATAGTG       5640

GCTCCACGAA CACCACCAGA TGCATTCCCA ATGACACCTG CAGTCGCTCC ACAGAAGAAA       5700

TGAGGCACAA CACCTGGTAA GATAACAACC GTTCCTGAAG CAATCATAAT TACCATACTT       5760

ACTAAACCAC CAACAAAACT AGAGATAAAT CCAATTAGAA CTGCATTGGG TGCATAAGTA       5820

TAAACAATCG GACAATCCAA AGCAGGTTTT GAATTAGGTA CAAGACGCTC TGAAATACCT       5880

TTAAAGGCTG GAACAATTTC GCCCAAAATA AGGCGAACAC CTGCTAAAAT AACAAATACC       5940

CCTGCTGCAA ATTGACCTGC TAATTGTAAA GCATAAACTA GACCACTTGT ACCACTACTG       6000

ATTTCTTTTT CTATATATTC TGACCCTGCA AAGATAGCTA CAATAATGTA AATAACTGCC       6060

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TATCCCAAAG AACTGAAATG ACCTAAAGCT ACCTTGTCAT TTCCAGTTAA TTGAACCATA       6240

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AAGATGAGAG GCAAGCTAGT AAAGCCAGCA ACTGATAAAA TGACCGCAAT CATACATGCC       6360

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AAGATATTGA ACACCATGCC TGCAAACATA ATCATTGCAG TAGCTGAGCC ATATGTTGTT       6480

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GTACCAATTT TTAACATTAT CTAATCCTCC TGTTTAATTA TCATTTTAAT GTCATCATAG       7080

TTTTTTGATG ATATTAAAGT TTGAACATGA TTTTTATCTC TTAAAATTGT TGTTAAATGT       7140

GACAAAGCCT TTAAATGACT CTCATTATCA ATGGCTGCAA TACAAATCAA CAATCTTACC       7200
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745

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TCTTGTTCTG GATTATCCAA TAAATAAATC GGTTCTTCCA AAACTAACAT TGACATTCCT      7260

ATTTCATTCA CACCTTCATC TGGCCGAGCG TGAGGAATTG CTACTCCCTT CCCTAAATTA      7320

ATAAAAGGTC CAAACTCTTC TACTTTTTGA ATCATTGCCT CAGGGTAGTT CTCAGTTATC      7380

TTATCTTGAT CCAAAAGCGG TTTAGCTGCT AAACGAATCG CCTCCTTCCA TCCTAATTTT      7440

TGCGAACTAA CCTGATAGGT TTCTTTGGTA ATAAGTTGTT CTAGCACTGG TACAATTTCC      7500

TTTCTATCAT TTTTTTGGTA AAGATAATTC TTTAACGCCA ATCTTAATTC CAATTCTTGT      7560

GTAATAATTC CATATCTTTT GACAATATTC AGGATTTGTT CAATCTCAAA ATCTCCATAC      7620

TCTAAATTCG GAAAATCTTT TAACACTAGT TCTACTAGTT GTATTGCTTG CTCTTCAGTC      7680

ATCATAACCG AAACTAGATA ATTTGGCTTT TCTGTCTCCA CCTTTATGGT AGAAAAAACC      7740

ATATCATAGT CACTACTAGC TTTCACCTGT AAATCATCAA TCTTTGAGGT TCCTATAAAC      7800

TCAATTTGAG GAAATAATGC TAATAGATTC TCTTTTAACA TCAATGAAGA ACTAACACCA      7860

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TAACCTCCGA AATGGATAAC AAAATATGCT GTTTCACTAT CAGGTATGGG ATTGTCAATA      7980

GCGTCCATCA AGGGCATCAA AGAATCTTTG ACTAATTCAA ATAAATCAGG ATAATGTTCT      8040

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GTATAACCTT TTGCTCTACT GTACCCTAGC TCCAAATCAT TATCTAACAT AATCTTTCTT      8700

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CTATTCGATA TAAAATCTAA TCGGCAAAAA GTGTAAAGAT AGATTAAAGC TAAGCGAGTC      8820

GACTTTGGTA AAACCAATTC ATCCGACTTA ATAATATCTG TCAAAGACTG CTTCGTACGA      8880

TTTGATAAAC TATAGCGACC TTGCTTTTTA TCCAGCACTA TCCCTTTATT AGCTAGATAA      8940
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746

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GGCACTAAAT AATCTATTCC TTCTTTGACT TCCTTTATAG GTAAGCTCAC CTTAACAGAT      9000

AATTCATATA ACGATAGCTC ACAATGATCC ATCAAAGTCA TCAAAATAAC TAGTGCTCTA      9060

TAATCAAAC                                                              9069
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(2) INFORMATION FOR SEQ ID NO: 98:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 8654 ·base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 98:

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CGAGACAACA AGATGAAGAA AAATTTGCCC TATCGTTTGT GGCGCTTGCA AGTGTAGCAC        60

TTCTTGCAGC CTGTGGAGAA GTGAAGTCTG GAGCAGTCAA CACTGCTGGT AACTCAGTAG       120

AGGAAAAGAC AATTAAAATC GGGTTTAACT TTGAAGAATC AGGTTCTTTA GCTGCATACG       180

GAACAGCTGA ACAAAAAGGT GCCCAATTGG CTGTTGATGA AATCAATGCC GCAGTGGTAT       240

CGATGGAAAA CAAATCGAAG TAGTCGATAA AGATAATAAG TCTGAAACAG CTGAGGCTGC       300

TTCAGTTACA ACTAACCTTG TAACCCAATC TAAAGTATCA GCAGTCGTAG GACCTGCGAC       360

ATCTGGTGCG ACTGCAGCTG CGGTAGCGAA CGCTACAAAA GCAGGTGTTC CATTGATCTC       420

ACCAAGTGCG ACTCAAGATG GATTGACTAA AGGTCAAGAT TACCTCTTTA TTGGAACTTT       480

CCAAGATAGC TTCCAAGGAA AAATTATCTC AAACTATGTT TCTGAAAAAT TAAATGCTAA       540

GAAAGTTGTT CTTTACACTG ACAATGCCAG TGACTATGCT AAAGGGATTG CAAAATCTTT       600

CCGCGAGTCA TACAAGGGTG AAATCGTTGC AGATGAAACT TTCGTAGCAG GTGACACAGA       660

CTTCCAAGCA GCCCTTACAA AAATGAAAGG GAAAGACTTT GATGCTATCG TTGTTCCTGG       720

TTACTATAAT GAGGCTGGTA AAATTGTAAA CCAAGCGCGT GGCATGGGAA TTGACAAACC       780

AATCGTTGGT GGTGATGGAT TCAACGGTGA GGAGTTTGTA CAACAAGCAA CTGCTGAAAA       840

AGCATCAAAC ATCTACTTTA TCTCAGGCTT CTCAACTACT GTAGAAGTTT CAGCTAAAGC       900

TAAAGCCTTC CTTGACGCTT ACCGTGCTAA GTACAATGAA GAGCCTTCAA CATTTGCAGC       960

CTTGGCTTAT GATTCAGTTC ACCTTGTAGC AAACGCAGCA AAAGGTGCTA AAAATTCAGG      1020

TGAAATCAAG AATAACCTTG CTAAAACAAA AGATTTTGAA GGTGTAACTG GTCAAACAAG      1080

CTTCGATGCA GACCACAACA CAGTCAAAAC TGCTTACATG ATGACCATGA ACAATGGTAA      1140

AGTTGAAGCA GCAGAAGTTG TAAAACCATA ATAGAAAAAT GTTGAAATAG GGAATGAGCC      1200

TTTGACTCAC TCCCTGTTTC GATATTTAAT ACTCTTCGAA AATCTCTTCA AACTGCGTCA      1260
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747

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ACGTCGCCTT GGATTATATA TGTGACTGAC TTCGTCAGTC TTATCTACAA CCTCAAAGCA          1320

GTGCTTTGAG CAACCTGCGG CTAGTTTCCT AGTTTGCTCT TTGATTTTCA TTGAGTATAA          1380

GAACCTATCA AAAAGTGAGG GAAAACCCTC GGAATTATAA ATAGAAAGAG TGAATCTTAT          1440

GCTCCAACAA CTCGTAAATG GTTTGATTCT AGGTAGTGTT TACGCGCTGT TAGCCCTAGG          1500

ATATACCATG GTTTACGGAA TTATCAAGCT CATCAACTTC GCCCATGGTG ATATTTATAT          1560

GATGGGAGCC TTTATCGGTT ATTTCTTGAT CAATTCTTTC CAAATGAATT TCTTTGTAGC          1620

GCTTATTGTA GCTATGCTAG CGACAGCTAT TCTTGGTGTC GTGATTGAGT TTCTTGCTTA          1680

CCGACCTTTG CGCCACTCTA CTCGTATTGC TGTTTTGATT ACGGCTATTG GGGTTTCTTT          1740

CCTATTGGAG TATGGAATGG TCTATCTGGT TGGTGCCAAT ACCCGTGCCT TCCCTCAAGC          1800

GATTCAAACA GTTCGATATG ATTTGGGACC AATTAGCTTA ACAAATGTGC AGTTAATGAT          1860

TTTGGCCATT TCCTTGATTT TGATGATTTT GTTACAAGTC ATTGTCCAAA AGACTAAGAT          1920

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TGTAAACCGT ACGATTAGCT TTACCTTCGC TTTGGGTTCT GCTCTTGCGG GTGCGGCTGG          2040

TGTTCTGATT GCTCTTTATT ATAACTCTCT TGAGCCTTTG ATGGGGGTTA CTCCAGGTCT          2100

TAAATCTTTC GTTGCCGCAG TACTTGGTGG TATCGGAATT ATTCCTGGTG CGGCTCTTGG          2160

TGGCTTTGTG ATTGGTCTAT TGGAAACCTT TGCGACTGCC TTTGGGATGT CAGATTTCCG          2220

TGATGCCATT GTTTATGGAA TCTTGTTGTT GATCTTGATT GTCCGCCCAG CTGGTATCCT          2280

TGGTAAGAAT GTGAAAGAGA AGGTGTAAAC GATGAAGGAA AATTTAAAAG TTAATATTCT          2340

ATGGTTACTC CTTTTGTTAG CTGGCTATAG CTTGATTAGT GTACTGGTTT CAGTCGGAGT          2400

ACTTAATCTA TTCTATGTAC AGATTTTACA ACAAATTGGA ATTAATATTA TTTTGGCTGT          2460

TGGTCTCAAC TTAATCGTTG GTTTTTCAGG ACAATTTTCA CTTGGTCATG CTGGTTTCAT          2520

GGCGATTGGT GCCTATGCAG CAGCTATTAT TGGTTCTAAA TCACCAACCT ACGGTGCCTT          2580

CTTTGGAGCT ATGCTTGTAG GGGCTTTGCT TTCAGGAGCA GTTGCCTTAC TTGTCGGCAT          2640

TCCAACCTTG CGCTTGAAGG GGGACTATCT TGCGGTAGCA ACTCTGGGTG TTTCTGAAAT          2700

TATCCGTATC TTTATCATCA ATGGTGGAAG CCTTACAAAT GGTGCGGCAG GTATCTTAGG          2760

GATTCCTAAC TTTACAACTT GGCAAATGGT TTACTTCTTT GTCGTGATTA CAACCATTGC          2820

AACCTTGAAC TTCTTGCGTA GCCCAATTGG TCGTTCAACC CTCTCTGTTC GTGAAGATGA          2880

AATCGCTGCT GAGTCAGTTG GGGTTAATAC GACTAAAATT AAAATCATCG CTTTTGTCTT          2940

TGGTGCCATT ACTGCAAGTA TTGCTGGGTC ACTTCAGGCA GGATTTATCG GGTCTGTTGT          3000
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748

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ACCGAAAGAT TACACCTTCA TCAACTCAAT CAACGTTTTG ATTATTGTTG TATTTGGTGG    3060
ACTCGGTTCC ATTACAGGTG CGATTGTTTC GGCTATTGTT CTGGGAATTT TGAATATGCT    3120
TCTCCAAGAT GTTGCTAGTG TGCGTATGAT TATTTACGCT TTGGCCTTGG TATTGGTAAT    3180
GATTTTCAGA CCAGGTGGAC TCCTTGGAAC ATGGGAACTG AGCCTATCAC GTTTCTTTAA    3240
AAAATCTAAG AAGGAGGAAC AAAACTAATG GCATTACTTG AAGTAAAACA GTTAACCAAA    3300
CATTTTGGTG GTCTAACAGC TGTTGGAGAT GTGACTCTTG AATTGAACGA AGGGGAACTG    3360
GTTGGATTAA TCGGTCCAAA CGGAGCTGGG AAAACCACCC TTTTCAACCT TTTGACCGGT    3420
GTTTATGAAC CAAGCGAGGG AACAGTAACC CTAGATGGTC ACCTTTTGAA TGGGAAATCA    3480
CCTTATAAGA TTGCCTCTTT GGGACTTGGA CGTACTTTCC AAAATATCCG TCTCTTTAAA    3540
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GCTTTGGAAT TGTTGAAAAT CTTTGATTTA GATGGTGATG CAGAGACTCT TGCTAAAAAT    3720
CTTTCCTACG GACAACAACG TCGTTTGGAA ATTGTTCGTG CCCTTGCTAC GGAACCTAAA    3780
ATTCTCTTCT TAGATGAACC AGCAGCAGGT ATGAACCCAC AGGAAACAGC CGAATTGACT    3840
GAGTTAATTC GTCGTATCAA AGATGAGTTT AAGATTACAA TCATGTTGAT TGAACACGAT    3900
ATGAATCTGG TCATGGAAGT AACAGAACGT ATCTACGTAC TTGAATATGG CCGTTTAATC    3960
GCTCAAGGAA CTCCAGACGA AATTAAGACC AATAAACGCG TTATCGAAGC TTATCTAGGA    4020
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AAGCAGTTCG TGATGTAAGC TTTGAAGTTA ATGAAGGAGA AGTTGTTTCC CTTATCGGTG    4140
CCAACGGTGC AGGTAAGACA ACTATTCTTC GCACCTTGTC AGGTTTGGTT CGACCAAGTT    4200
CAGGAAAGAT TGAATTTTTA GGTCAAGAAA TCCAAAAAAT GCCAGCTCAG AAAATCGTGG    4260
CAAGTGGTCT TTCACAAGTT CCAGAAGGAC GCCACGTCTT TCCTGGCTTG ACTGTTATGG    4320
AAAATCTTGA AATGGGAGCT TTCTTAAAGA AAAATCGTGA AGAAAATCAA GCTAACTTGA    4380
AGAAGGTTTT CTCACGCTTT CCTCGTCTTG AAGAACGGAA GAACCAAGAT GCAGCCACTC    4440
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TTCTTCTTTT AGATGAACCA TCAATGGGAC TTGCCCCAAT CTTTATCCAA GAAATTTTTG    4560
ATATCATTCA AGATATTCAG AAGCAAGGAA CAACGGTCCT CTTGATTGAA CAAAATGCCA    4620
ATAAAGCACT TGCAATCTCT GACCGAGGAT ATGTACTGGA AACAGGGAGA ATCGTCCTAT    4680
CAGGAACAGG AAAAGAACTC GCTTCATCAG AAGAAGTCAG AAAAGCATAT CTAGGTGGCT    4740
AAAACAATCC AGTGGATTGT TTTAGTCGGC AGATGGAGAT TACGAAGTAA TCATCAATAT    4800
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749

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AGCTCGATTT CAGAGCTCTT TTTGCTAGCT TATTCATACT TTTCTGAATT TCGAAAAAGA      4980

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AACAATGCCA TCTTGGAAAT CCATCCAGGT TCTGGTGGTA CTGAGGCGCA GGACTGGGGT      6240

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TTGGATGATA CTATTGAAGT GGAAATCCGT GAAGATGATA TCAAGATGGA TACCTTCCGT      6540
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                                    750
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ATTCCAACTG GAATTGTTGT CCAATCAACA GTAGATCGTA CCCAGTATGG AAATAGAGAT    6660

CGTGCCATGA AGATGTTGCA GGCTAAGCTC TATCAAATGG AGCAAGATAA GAAGGCTGCG    6720

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GTGCAATTGT AAATAATCCC AAAGTATTGA TAGCTGATGA GCCAACAGGA AATCTGGATC    7440

CGGATAATTC ATGGGAAATT ATGAATCTCT TGGAACGGAT TAACyTACAA GGAACAACTA    7500

TTTTGATGGC GACTCATAAT AGCCAGATTG TAAATACCTT GCGCCACCGT GTCATTGCCA    7560

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CCAAATGATG TAAAAACTAT AGCCGAAGAT GCTAAAAAAA TTGAAGGTGT CTCTGAGGTT    8100

CAAGATGGCG GTGCCAATAC AGAAAGACTC TTCAAGTTAG CTTCATTTAT CCGTGTTTGG    8160

GGACTAGGGA TTGCTGCTTT GTTAATTTTT ATCGCAGTTT TCTTGATTTC AAATACCATT    8220

CGTATTACCA TTATTTCCCG CAGTCGCGAA ATTCAAATCA TGCGCTTGGT CGGAGCTAAA    8280

AACAGTTATA TCCGTGGACC GTTCTTGTTA GAAGGAGCCT TTATCGGTTT ATTGGGAGCT    8340
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751

ATCGCACCAT CTGTTTTGGT CTTTATTGTT TATCAAATTG TTTACCAATC TGTCAACAAA   8400

TCGTTGGTAG GGCAAAATCT ATCCATGATT AGTCCAGATT TATTTAGTCC GTTGATGATT   8460

GCCCTACTAT TTGTGATTGG GGTTTTCATT GGTTCATTGG GATCAGGAAT ATCCATGCGC   8520

CGATTCTTGA AGATTTAGGT AAAATAGCTG CTTTTATGAG GAGATTGTAA AATCTCCTTT   8580

TTTGCTACAA GAGTTTTTGA AAAGAGATGC GCAGAAGAAA AGAGCTTCCA AAGAAGTCCC   8640

CCAGAGAAGA CTTC   8654

(2) INFORMATION FOR SEQ ID NO: 99:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 19718 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 99:

TGTCGCGTCA AAATCATTAC TATGGCTATG TATAGCCCTT ACTATGACTT GGCTAAACAC   60

GTTCGCTTTC AAATTTCTAG GCTCAGGCTG AAACAGTCTC CCAGGCTGTT CACTCCCGAA   120

TGCTAAAATC GTTCTTGATC GCTTTCACAT TGTACAACAT CTTAGCCGTG CTATGAGTCG   180

TGTGCATGTC CAAATCATGA ATCAGTTTCA TCGAAAATCC CATGAATACA AGGCTATCAA   240

GCGCTACTGG AAACTCATTC AACAGGATAG CCGTAAACTG AGTGATAAGC GATTTTATCG   300

CCCTACTTTT CGCATGCACT TAACAAATAA AGAAATTCTT GACAAGATTT TAAGCTATTC   360

AGAAGACTTG AAACACCACT ATCAGATCTA TCAACTCTTA CTTTTTCACT TTCAGAACAA   420

AGACCCTGAG AAATTTTTCG GACTCATTGA GGACAATCTG AAGCAGGTTC ATCCTCTTTT   480

TCAGACTGTC TTTAAAACCT TTCTCAAAGA TAAAGAAAAG ATTATCAACG CCCTTCAACT   540

ACACTATTCT AATGCCAAAC TGGAAGCGAC CAATAATCTC ATCAAACTTA TCAAGCGCAA   600

TGCCTTTGGT TTTCGAAACT TTGAAAACTT CAAAAAACGG ATTTTTATCG CTTTGAACAT   660

CAAAAAAGAA AGGACGAAAT TTGTCCTTTC TCGAGCTTAG CTGACTTCAA CCCACTACAG   720

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TAGTCCTTTT TGATAACGTG CCAATTCGGC TTGGTTCGCC CAAACATAGT GACCTGGACG   840

GATTTCTACC ATAGATGGCT TATCAGTCTC ATAGTCGTGT TGACTTGGAT CGTAAACCTT   900

CAAGACCTTC TTACGTTCCA AGATTGGATC TGGGATTGGT ACCGCTGAAA GCAAGGCTTG   960

AGTATATGGG TGAATTGGAT TGTTAAACAA TTCTTCTGTT TCTGCAACCT CTACAATAAC   1020

752

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ACCCTTGTAA ATAACTGCGA TACGATCTGA AATAAAGCGA ACAACCGACA AGTCATGGGC    1080

GATGAAGAGA TAGGTCAGGC CGAGCTCTTT TTGGAATTTT TTGAGCAAGT TCAAGACTTG    1140

GGCACGTACA GAAACGTCCA AGGCTGAAAT TGGCTCATCT GCAATAACAA AGTCTGGTTG    1200

CATGACCAAG GCACGGGCAA TACCGATACG TTGACGTTGA CCGCCTGAGA ATTCATGAGG    1260

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CATTTTTTTC TTTTGTCATT TCTACTCCTA TCTATGTGTA CGTGGATCAC TAGCATCCGC    2820
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753

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TAAGTTTTGA CCAACTACGA AAAGGGACAA GGATACCAAG ACAAGGGTTG TCAATGGAAT    2880

CCAGAACAAG TAAGCATTGG TTGTTACGTT TTGTGAATAA TCCGAAATCA AACGACCCAA    2940

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TACGCTCATG GCAAAAATCA GATTCCAGAA TCCAGCTCCG ATTGAGTAAG TCAAGACAAT    3240

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ACTAAAGTCG TTTACCTTGC TGACATCATT GAAATCAAAC TTAGAAAACA TTGGGTAGAT    3540

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CATAAATTGT TTAAACACTG ATTTCCAGTA AGAATATGCT GGCGCATCAA TAGTTTCAGA    3660

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GTTTTCTTAC CTGTTGGGAA CTGAACTTGG GCAGTTTTGG TTTGTCCTTG ACCTTGAGTA    4560
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754

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TTCAAGTCTG GATTTTCAGG GTCTTGGATT TTATTTGTAT GGTCAATGTC AATCAAGTTA      4800

GCATAGAAGT GAAAAACACG TTCAAAAATT GGAATTTCAC GAGTAGCATA GAATTGACCA      4860

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ATAGCTTTAT TGGTCGCATT TGCTTCTACT GTTACAGAAG AATCCATGCT ACTTGCCTTT      4980

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TCATAGTTAT CACGTTTATC AGCCGTTGTC GCAATTTTAT TATAGTTAGG ATCCTGCTTG      5100

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CCAGCTGAAA CAAAGTCTGG TTTTACAAAT AAATTACGAA CTGCTAAAGC TGCTCCATCT      6180

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AAATCTTTGT TAAGCAATGC CTTCTTAGTA GCTACTTTCT CTGAATCTGT AGTTTTAGAA      6300

GTATAGTTGT AACTTTGGCG ATCAATATTC ACACCCAGAC CAGCAATCCC AGAGCCTGAT      6360
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755

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TGTGTGTAAT AGATATTGTC CTTGTATTCT TCTGCAACCT TAGAATAGTT GGAGCTGGTA      6420

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TCTGATCCAT CATAGTAAGC TAGATTGATA GTATCTAGGT GGACATTTTC TTTATCCCAA      6540

TATTGCTCAT TTTTTACAAA CTCTACAGAA GATTTTGCAG TCAACCCTTT CAACAAGAAT      6600

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TTAGCCGTCA CCTCTGCATA TTCTTCTCCA TCAGAGGTAA ACCATTTAAC CCCTTTACGA      6960

ATCTTATAAG TGTAGGTCAA ACCATCCTTA GAGACTTCCC AATCCTCTGC AACTGCAGGA      7020

GCAAGATTAC CGTAATTATC GTTAGTGAAT AAACCATCAA TCCCATTTGA AGTCACTACT      7080

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TACTCCTCTG TTTATGTGAA TTATAGATTG ACAACCATTA TATCACATTA TCCATTAAAA      7320

ATCAAACAAA TTTTCAGAAT ATTTAGGCTT GTTGGCACAA ATTTTTCATT TTTTTTGAAT      7380

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CAGAAACTTT GGAGTTTAGG AAGACATACA GTAAAATGAA ATACGGACGG AACAATGTGA      7500

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TCAGTTTACT ATGTCTTTTC ACACCAACCT TATCCCGAAT TCAATTACTT TTGTGATTTA      7620

CATATATAGA TTAAGACTAT CTTTTATACT TTAAAATTTC TCGCTACCTT ATCCACTATA      7680

TGCTCCTCGC TATCACGTTT CTATTCATAG CCTACGATTT CACTATTGCT TTCTCTGACA      7740

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AAGCATAGTC AATCTCCTCA TCGGTCAGGA TATCCTTGAC ATCTACTACT CCAATCCCAT      9840

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757

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758

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ATCCGACAAT TTAATGGCAT TTGGTTGAGA ATAACGAAGG TATTGATTTG CTTCTTTTCC   13440
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759

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                                    760
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761

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762

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TGACCCATTG ATTAAAAGTC AATTGCTCTA CCAACTGAGC TAACGAGTCT AAAATAACTT    19680

GCGTTACCTT AAACGGTCCG ACGGAATCGA CCCGGTAC                            19718
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(2) INFORMATION FOR SEQ ID NO: 100:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4117 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 100:

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763

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TTAATATTCC GCCGAATCAA GCTGGGCTCT TTGATGCAAA GGATATTGAA CGACTTTATG     1200

AATTTGCGAC CTATCGCAAT GAGCTCTATA AAGAAGATTT GGCTCTGGGA GCTGAGGTAT     1260

CTGGTCCAGC TCTTTCCGCA GACTTTGCTT GTCGCCATTT GACAGACGGC CTTGAGACCA     1320

GCTCTTGGGC AAGCGATGCA GACTTGCCCA TCCAGTTAGA ACTCGACTTA GGTTCTCCTA     1380

AAACTTTTGA TGTAATTGAG TTAAGAGAAG ATTTGAAGCT AGGGCAACGA ATCGCTGCTT     1440

TTCATGTGCA AGTAGAGGTG GATGGTGTCT GGCAGGAGTT TGGTTCGGGT CATACTGTTG     1500

GTTACAAACG TCTCTTACGA GGAGCAGTTG TTGAGGCACA GAAGATACGT GTAGTCATTA     1560

CAGAATCACA GGCTTTGCCT TTGTTGACCA AGATTTCCCT TTATAAAACT CCTGGATTAT     1620

CAAAAAAAGA AGTTGTTCAG GAACTAGCAT TTGCAGAAAA AAGCCTAGCT GTGGCAAAGG     1680

GAGAAAATGC CTATTTTACA GTTAAGCGCA GAGAATGTAG TGGTCCTTTA GAAGCTAAGA     1740

TTTCGATTCA ACCGGGGACA GGTGTCCATG GTGTCGCCTA TCAGGATGAG ATTCAAGTCC     1800

TTGCGTTTCA AACTGGTGAG ACTGAAAAAA GTCTGACGCT ACCAACCTTG TATTTCGCAG     1860

GAGATAAAAC CTTGGATTTC TATCTGAACC TAACGGTGGA TGGTCAGCTT GTGGATCAAC     1920

TTCAAGTCCA AGTTTCATAA AAGAAGAACC TTTGCGCGAT GCAAAGGTTC TTTTGGTTAT     1980

TAGTGACTTG GTAACCAGCT GAGGGTGAAA GTTAGTTGTT CAGCTTTTAA GAGGTCTTGG     2040

TGTTGAATAG TTGATACGAG TGTTTTGTCC AGTCGGCATT CTTTGACAAA GTTAAAATGG     2100

TTGTGGTTTT GTTAGTATG GATATCCAGC CATTTATCTT CTTTAGCGAG GTAGACTCGT      2160
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764

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AGATGGTCAA AGAGAGGGAT TCCGAGGTCA TAGCTTGGTT TTCCTGGACA GGTTGGATAA        2220

AATCCGAGAG CTGACCAGAT GTACCAAGCA GAGAGACTAC CATTGTCTTC ATCTCCAGGA        2280

TAGGCTTCCC AACTTGGGTG AAAAGCTTTC TGACGGAGCG TCTTGATAAG AAGGGCAGTG        2340

TAGTCAGGGT AATCGCTGTA ACGGAAGAGA TAAGGAATGT GGAAACTAGG CTGGTTGGAA        2400

ATGGCTATTT GTCCAAAAGG AGCAGTAGCC ATCTCGCTCA TTTCGTGAAT TTCGTAACCA        2460

TAGCCTGTTG TTTCAAAGAG GGGAGCATCT TGACAGGCTT TCAAAAGATA GTTGCTAAAG        2520

GTTTCTTTTC CACCCATCAG TTGGATTAAG CCAGGGATGT CGTGGAGAAC GCCTAAAGTA        2580

GCTTGAATGG CAGAGCATTC AGCGTAGTCT CGCCCCCAAC TATAAGGAGA GAAGTCAGGG        2640

TGAAAGTTTC CTTGATTGTC TCGTGCTCGC ATGTAACCTG TCTCAGCGTC AAATAGCTGG        2700

CGGTAATTTT GTGAAGCAGC CTTGTAGGTT TCAGCGATTT CTATGTTCTC TAGTTTTTTG        2760

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AGGTCGGGGG TCATGTCCTT GCAGGCGCTA TCTGCGATAA TACCGTCTAA AAGTGTACCT        3000

GGCATCATAC CCCGTTCATC TGGAGCCAGC CATTTTGGAA GGAAACCAGT ATCGCGGTAG        3060

CTATTGAGGA AACCTTCTAA AAAGCGTTGA TAGTGCTCCG GTATGATAAG GGCAAAGAGG        3120

GGGAAGGTGG TGCGGAAGGT ATCCCAGAAA CCATTGTTGC TAAAGAGGAC ACCAGGCTTG        3180

ACAGTACCAG TAGCCAGATC CATGTGGATG GCTTGCCCTG ATTCATTAAT CTCATAAAAA        3240

GTCTGTGGGA AGAGGAAGAG TCTGTAGAGG CAGTGGTCAA AGAAGGTTCG GTCAGCCTCT        3300

CCTGTCTCTA TAATGTCAAA ACGATGGAGG AGATTTTCCC AATCCACTTG GGCACTTGAT        3360

TTACAGCTAT CAAAATCTTC TTGAGGTAGA TTGATTAGAG CTTGAGAAGG AGAGATGAAA        3420

GAAGTGGCTA GTTGCATCTC GGTTTGACTA CTTGCTAAGT CAATTCGCCA GTCTCCAGCT        3480

TCTTGGCTGA TAGCAAGAAT ATCCGTGTTC ATTTGCAGGG CAGTGAACAT CGTTAGCGAA        3540

TTTTTGTTAG TTTCAGTTTT ACCTTCTTGT CGCAGGGCAA GAGTCCGCTT ATCTACTTGC        3600

TCTACTGTCA GTTCATCTGC TGCGTGAAGA TAGAGGGAGA GGGCTTTGCC TTGCTTTTGA        3660

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AGAGAAAAGA GCTTCAAATA GTGAGGCTGG AAGCAAGCTT TATCTATATC ATAAGAAGAC        3780

TGGCGGTGAA AGAGGCTGTC TCCCCCCAGT TGACTGGTGA CAGGTGTCAG AAGGAGCCAA        3840

GAGTAGTCCC CAATCCAAGG ACTGGGCTGG TGAGTTAATC GAATCCCCTG AAAGATAGGC        3900

AGATGTGGAT CAAAAAACCA AGATCCATCC TGGTCACTGG TCTGGGGCAC AAAGTAATTC        3960
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765

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ATCCCAAAAG GCACGCCTGT GTATGGCAGG GTATTTCCCC GAGAAAAGGC ATGCTTGTTG      4020

GTAGTTCCAA AACGGGTATC GATGGTATCA AGTAGTGGTT TCATAGTCTT TCCTTTAGCT      4080

GTTTTTCTAC ATTATATCAG TAATAGAGGG CCTTTAG                              4117
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(2) INFORMATION FOR SEQ ID NO: 101:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2727 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 101:

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CTGGTTCAAT TATTATTCAC TCTAAGTAGT CATATGTTCT TTATTTATGT GAGTTTTTAC        60

CTTTTAAAGG ATCTTGTTAG ATGGGAGAAG GTTTTAAAAG TGACAGATGA TAATACAAGA       120

AAAGTTCGTT TATTAGTAGC CTTTTTTAGC ATTGTCATAG CTACATCCT GAGTTCTTTC        180

TTTATTAGCC TGTATCATTT GTGGCAAGAA GCGCTTAGAG GATTATTATG AAATCAAGAG       240

TAAAGGAAAC GAGTATGGAT AAAATTGTGG TTCAAGGTGG CGATAATCGT CTGGTAGGAA       300

GCGTGACGAT CGAGGGAGCA AAAAATGCAG TCTTACCCTT GTTGGCAGCG ACTATTCTAG       360

CAAGTGAAGG AAAGACCGTC TTGCAGAATG TTCCGATTTT GTCGGATGTC TTTATTATGA       420

ATCAGGTAGT TGGTGGTTTG AATGCCAAGG TTGACTTTGA TGAGGAAGCT CATCTTGTCA       480

AGGTGGATGC TACTGGCGAC ATCACTGAGG AAGCCCCTTA CAAGTATGTC AGCAAGATGC       540

GCGCCTCCAT CGTTGTATTA GGGCCAATCC TTGCCCGTGT GGGTCATGCC AAGGTATCCA       600

TGCCAGGTGG TTGTACGATT GGTAGCCGTC CTATTGATCT TCATTTGAAA GGTCTGGAAG       660

CTATGGGGGT TAAGATTAGT CAGACAGCTG GTTACATCGA AGCCAAGGCA GAACGCTTGC       720

ATGGTGCTCA TATCTATATG GACTTTCCAA GTGTTGGTGC AACGCAGAAC TTGATGATGG       780

CAGCGACTCT GGCTGATGGG GTGACAGTGA TTGAGAATGC TGCGCGTGAG CCTGAGATTG       840

TTGACTTAGC CATTCTCCTT AATGAAATGG GAGCCAAGGT CAAAGGTGCT GGTACAGAGA       900

CTATAACCAT TACTGGTGTT GAGAAACTTC ATGGTACGAC TCACAATGTA GTCCAAGACC       960

GTATCGAAGC AGGAACCTTT ATGGTAGCTG CTGCCATGAC TGGTGGTGAT GTCTTGATTC      1020

GAGACGCTGT CTGGGAGCAC AACCGTCCCT TGATTGCCAA GTTACTTGAA ATGGGTGTTG      1080

AAGTAATTGA AGAAGACGAA GGAATTCGTG TTCGTTCTCA ACTAGAAAAT CTAAAAGCTG      1140

TTCATGTGAA AACCTTGCCC CACCCAGGAT TTCCAACAGA TATGCAGGCT CAATTTACAG      1200
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766

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CCTTGATGAC AGTTGCAAAA GGCGAATCAA CCATGGTGGA GACAGTTTTC GAAAATCGTT      1260

TCCAACACCT AGAAGAGATG CGCCGCATGG GCTTGCATTC TGAGATTATC CGTGATACAG      1320

CTCGTATTGT TGGTGGACAG CCTTTGCAGG GAGCAGAAGT TCTTTCAACT GACCTTCGTG      1380

CCAGTGCGGC CTTGATTTTG ACAGGTTTGG TAGCACAGGG AGAAACTGTG GTCGGTAAAT      1440

TGGTTCACTT GGATAGAGGT TACTACGGTT TCCATGAGAA GTTGGCGCAG CTAGGTGCTA      1500

AGATTCAGCG GATTGAGGCA AGTGATGAAG ATGAATAAGA AATCAAGCTA CGTAGTCAAG      1560

CGTTTACTTT TAGTCATCAT AGTACTGATT TTAGGTACTC TGGCTCTAGG AATCGGTTTA      1620

ATGGTAGGTT ATGGAATCTT GGGCAAGGGT CAAGATCCAT GGGCTATCCT GTCTCCAGCA      1680

AAATGGCAGG AATTGATTCA TAAATTTACA GGAAATTAGG CTGGAGAACC AGCCTTTTTC      1740

TAAAGATAAG GAGAAATATG AACAAAAAAA CAAGACAGAC ACTAATCGGA CTGCTAGTGT      1800

TATTGCTTTT GTCTACAGGG AGCTATTATA TCAAGCAGAT GCCGTCGGCA CCTAATAGTC      1860

CCAAAACCAA TCTTAGTCAG AAAAAACAAG CGTCTGAAGC TCCTAGTCAA GCATTGGCAG      1920

AGAGTGTCTT AACAGACGCA GTCAAGAGTC AAATAAAGGG GAGTCTGGAG TGGAATGGCT      1980

CAGGTGCTTT TATCGTCAAT GGTAATAAAA CAAATCTAGA TGCCAAGGTT TCAAGTAAGC      2040

CCTACGCTGA CAATAAAACA AAGACAGTGG GCAAGGAAAC TGTTCCAACC GTAGCTAATG      2100

CCCTCTTGTC TAAGGCCACT CGTCAGTACA AGAATCGTAA AGAAACTGGG AATGGTTCAA      2160

CTTCTTGGAC TCCTCCAGGT TGGCATCAGG TCAAGAATCT AAAGGGCTCT TATACCCATG      2220

CAGTCGATAG AGGTCATTTG TTAGGCTATG CCTTAATCGG TGGTTTGGAT GGTTTTGATG      2280

CCTCAACAAG CAATCCTAAA AACATTGCTG TTCAGACAGC CTGGGCAAAT CAGGCACAAG      2340

CCGAGTATTC GACTGGTCAA AACTACTATG AAAGCAAGGT GCGTAAAGCC TTGGACCAAA      2400

ACAAGCGTGT CCGTTACCGT GTAACCCTTT ACTACGCTTC AAACGAGGAT TTAGTTCCCT      2460

CAGCTTCACA GATTGAAGCC AAGTCTTCGG ATGGAGAATT GGAATTCAAT GTTCTAGTTC      2520

CCAATGTTCA AAAGGGACTT CAACTGGATT ACCGAACTGG AGAAGTAACT GTAACTCAGT      2580

AAAAGATACG CCTACACTCC TATGTCACTT ATGGATGTAG GAGTTCTTTT TACTAGTTTA      2640

AGCAGGACTA AGACAGGTAC TAAGACAAAA TAGCAACTTC TAAAACTAAC TTCCAGTTTT      2700

GGGAGAGAGA TGGAAGTTAC TTTGAGA                                         2727
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(2) INFORMATION FOR SEQ ID NO: 102:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5717 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

767

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 102:

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TTTTTTGTAG ATTTAAGTGG GGTGCAATTC CTAAAAAATA AAAAACAATT TTTGAAAATT      60

ATGTTAGCAG GAATTGCTTC AAATTCGATT TTATCACTTA CAGGTTTACT TGTTTTATTG     120

TTCACATCGT ATAAATTGCT TGGACTCTTA TTTTTTATCA TTAACTTAGG TATGATTTTT     180

ATTAATTCAA TTCCTTTTTT TCAGTATGAT AGTGGTATTA TTTTAAGATA CTTGAATTCT    ·240

AACAATAATA ACTTGAATTT TCAATATATA GTTCAACTTT TAATAGCATT TGTTATTATT     300

TATTTTCCTT TGAGTCAACT ATTACAGTTT TTGACACCCA ATATTATTGT TCGTAGTATA     360

GGAGGGGTGG TTGTTTCTAT ACTGCTTTCT ATATTATATA TGATAGGAAG GACGAAATAT     420

GTTCTACGTA AATAGTTATG TTTTTGCTTA TAAAAAAGAA GGTATAATGT ATTTACGTGG     480

TCGGAGTATG CGGGAAATAG CTATAGAACC TCAAATTTCG CAAGAATTTA TCAACGATCT     540

ATTTAATAGT TGTAAGGAAC TATTAGAGAT AGAAGAAGTA TTAGGCAGTA AACTAACATT     600

TGAACTATAA ATGAACAAAT TTTAATTTCG GATGAGATAG ATATTGATAG TAGATATTCT     660

AGAACTAAAG GTTACTATTC GTTATTTTAT AATGAAGAGT ATAATAAAAT ACAGAATAAA     720

ACAGTATTAG TATTAGGAGC AGGAGTCTTA GGATGTTATA TATCTCTAAG TCTAAGTATG     780

TATGGAGTGA GGAAACTTAT TGTCGCTGAT TACGATATAA TAGAACCATC AAATTTAAAT     840

AGGCAAATTC TTTATACAGA GTCGGATGTT GGTAAGGAGA AGATTAATGT TCTTTCTGAA     900

AAAATACACA AGTATAATTC AGATGTTCAG GTAGTACCTA TTTCTATTAA AGTTTCTTCA     960

GTAGAAGAAT TAGAAAAAAT TGTTGCGGAA TATGGGAGTA TAGATTTTAT CGTTAAAGCA    1020

ATTGATACGC CCATTGATAT TATAAAAATT GTCAATCAAT TTGCTGTATC GCATAAGATA    1080

TCCTACATAT CAGGAGGGTT TAATGGATGC TATCTTATTA TTGATAATAT ATATATCCCT    1140

ACCATCGGTT CTTGCTTTGG TTGTCGGAAT ATAAACAAAG ATATAAATAA GTACACTTTA    1200

TCTGATAAGA CAAAGTGGCC GACTACACCA GAGATGCCTG CTATTTTGGG AGGGATAATG    1260

ACTAATTTAA TAATTAAAAT ATTTCTGGGA TGTTATAATG AAATCCTAAT AGATAACGCT    1320

TACGTTTATA ATATGAGAAA TCATGCTCTA AGTCAAGAAA AATATGTTCT GGAAAACGGA    1380

GAATGTCCAA TTTGTAAAAA AATAATAAAG TGAAAGATAA CAATATTAGA GCGAAAACAT    1440

TTATTCGTTC AGTTTGTTTT TGCTTATTAT CAGGAGGAGT AGCTTTTTTA TCTGCTATTG    1500

GGCAGTTCAC TGTTATAGAA ACACAATTAA TAGTATTGTT CTTGGGTATT ATTTTTGCTA    1560

TATATTATGC TTACTACAAT AAAAATATTC AAACATCATT GGAAAATATA GTATGGCTTT    1620
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768

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TTTCATCGTT TGAGATTTTA TTTTTGCTTG TTAATTTTAG AACATTTATT CAGTTACCAG    1680

TGGATATTTT TATTGGTATG ATAATATTTT TAATGCTGTG GATATTTATT ATGTTAGGTA    1740

TAGTGTGTCT TAGTTATTAT ATAACTTTAT TATTTAGCAA GGAGGCTTAG TATGTTTAAA    1800

AAAATAGGTA TAATGAGCAT TTGCATATAT ATAATTATTT TATACTGCTT GAGAATGTAT    1860

CGTATTATCA ATAATATTGA AACAATCTTG CTAACGGTTA TATGCTTAAT GTTATTGTTT    1920

TTTTTAAGAC GTTTATTTGA TAAAGATAAG TAAATAGATG TTAAGTAAAA ATGTAGAATA    1980

TAAAGGAGGT GCAATGAGTA TGATTGAAGT TAGCCATTTA TCAAAAAGTT TTGGTGATAA    2040

AATAGCTTTA AATAATATAA GCTTCACTGT TAAAGAAGGT TAGATTTTTG GATTTTTAGA    2100

ACCATCTGGT TCTGGAAAGA CCACAACGAT TAATATTCTG ACTGGGCAGT TCCTTGCCGA    2160

TAAAGGACAA TCTATTATTT TGGGACAAAA ATCTCAAAAT TTAACAAGCG GTGAATTAAA    2220

GAGAATTGGA TTGGTTAGCG ATACAAGTGG ATTTTATGAG AAAATGTCTC TGTATAACAA    2280

TCTTCTTTTT TATAGTAAAT TTTATAATAT TAGTAAATCA CGTGTTGATA ATTTGTTAAA    2340

GCGAGTAGGA TTATATGATA GTCGCAAGAT GGTAGCAGGA AAATTATCCA CTGGAATGAG    2400

GCAACGAATG CTTTTAGCAC GAGCTCTTAT CAACAACCCC GCTGTACTCT TTCTGGATGA    2460

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GAAAACAGCA GGGACAACGA TTTTTCTAAC GACTCATGAT ATGAATGAAG CAACTCTTTT    2580

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TATCAACTAT GTTTCTTCCT TTTTTGCTAA CTTTTGTGAT TATGGGAACT ACTCCTCTTA    3180

TTTTAGGAGT TACAATTGTA CATACTTTTA ATTATATTAC AATCGTTCTT CTAACCTCTT    3240

TATCCATCAT TTTATTCTAT TTATTGATAG GTTTAACCGC GAAGAGCCAA GTAGTAGCTC    3300

AGGTTATCAG TCTTCCTGCT ATGATTTTAG TTGCTTTCTT ACCGATGCTA TCTGGTTTGG    3360

ATAAGACAGT TGCGAAGATA ACAGATTATA GTTTTATGGG ACTATTTACT AAGTTTTTCA    3420
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769

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CAAAATGGGA GGAATTTTCA TGGAATAAAA CTCTAATTCC TAATCTAACA CTACTTATTT      3480

GGATTGTTCT TCTATTAACT TTAATTACGA TAACTATTAG GAAAAAGAAA ATTTCTTAAT      3540

TGAGTTATTT TAATGATTAT AAACACAAGT GGGAAGGAAA AAATGAACTG ATCTTTTTGA      3600

CAGCAATTCT ACAGAATAGT CTTATTGCTA TATTTTGATT TGAGTGTACG AAAAAAGAAA      3660

AATAACAATA GTGCTCATAC TAATTGCAGA AGTTTTGGGT GATAAGATAA CTGATAAATT      3720

GCAATAAAAA ATGCAACATT TTTAAATCTC CTCTATAAGT GCTTCAAAAA GTGCTTCAAA      3780

ACCTGTCTTG TAATCCAAGT ATTTTTGGGG ACGGTGATTA ATAAGCTAGC AAAGCATCAT      3840

TAAGGATTTT TTCGGTAATT GTTGCCAAAT CGGTTTAAGA AAATACTCAC GAAGAAGTCC      3900

ATTCGCATTC TCATTACTTC CCCTTTGCCA AGATGAATAG GCATCCGCAA AATAAAACAG      3960

AATTCCCATT TGTTCAATTA AAGGGTAACA AGCAAACTCT TTTTCTCTGT CCGAAGTGAA      4020

AGTCTTTAAC TATTCTTTTG GAAAGAGTCT TGTGAGGTGT TCAATAGCAG TCAACATGGA      4080

TTTAGCTGTT TTTACTTGAC AAGTGCTAGT AGAAATAATA GAATAGTAAA AAACCTTTAA      4140

AGCAGTCCAG AGAGGCAGCT AAGGTTAGAC GGTGAAAGGG TGGAGACTAC CCATTTTTCG      4200

TGGAACCTTG CTGTTGGCAG GTTCCTTTTT TCGTGGCTTC TGTTGGCCAG ACTCTCTCAC      4260

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TCAGCCATGA AGATCTTGTC TCAGCTTGGT GTCGATATGA CTAATGTCCA TGCGGCTGGT      4560

GGTGTAGAGA TGATGAAGGC GGCGCGTGAA GGTCTTGGGA GTCAAGCCAA ATTGATCGCT      4620

GTAACTCAGC TCACATCAAC GTCAGAAGCT CAGATGCAGG AGTTTCAAAA TATCCAAACC      4680

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GCATCTGGTA TCAAGTCACC GATTTACACT GATAATCGTG TGACACTAGC CTATCCAGAA      5160
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770

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ACTCGTACCC TAATTGAAAA TGGTTTTGTG GAAGCTATCA AAGAAGCCTT TCCTGAAGTA    5220

GAAGTGATTG CAGGAACTGC AACAGCAGGG ATTCCACACG GAGCCATTAT TGCTGATAAG    5280

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ATCGAAGGTC GCGTAGCTCA AGGTCAAAAA ATGGTAGTGG TTGAAGACCT TATTTCAACG    5400

GGTGGTTCAG TTCTTGAAGC TGTAGCAGCA GCCAAGCGAG AAGGAGCAGA TGTACTTGGA    5460

GTTGTAGCGA TTTTCAGCTA CCAATTGCCA AAAGCAGATA AGAACTTTGC AGATGCTGGT    5520

GTTAAACTTG TGACGCTTTC AAACTATAGC GAGCTTATCC ATCTAGCCCA AGAAGAAGGT    5580

TACATCACGC CAGAGGGCCT TGATCTTCTA AAACGCTTTA AAGAAGACCA AGAAAATTGG    5640

CAAGAAGGTT AGGTCAGTAA GATAAAGAGA GACGAGGCTA CCGAGTCTCT TTTACCATTT    5700

TATTTAAAAT ATGACAG                                                   5717
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(2) INFORMATION FOR SEQ ID NO: 103:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5558 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 103:

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CCTGGACTTT CTAAAATGAA ATCTTGCGAC CTGGATCAAG CCCTTCATGA GCATTTTTCA     60

GAAGAAGAAT TAGCTGGTCA CTTTCATGTC CTTCTATGGA CTTTTTTTAC AATGGCATTG    120

CTATCACACC CAATACCTAT CTAAGCGCCT GGTTCGTAAA CTTTATTGCA GCTCTTCCTC    180

TAAATTTCCT AATTGTTGAA CCAATTGCCC GTTTTATACT AAGTTCTTTT CAGAAACCAT    240

TTACTGGGGA AGAAGTTGAA GATTTTCAAG ATGATGATGA AATCCCAACT ATTATCTAAG    300

CCAGTTCTGT AAACTACTAA TATTTGAAAT CCACTTCCTT TTAGGGTGCA ATGGTTATAA    360

ATGAATTTTT GAGAGGATCA GAATGAAAAA ACTAGCAACC CTTCTTTTAC TGTCTACTGT    420

AGCCCTAGCT GGGTGTAGCA GCGTCCAACG CAGTCTGCGT GGTGATGATT ATGTTGATTC    480

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TGCTTTAACA AACGAAAACG CCAATTTCCC ACAACTATCT AAGGAAGTTG CTGAAGATGA    600

AGCCGAAGTG ATTTTCCACA CAAGCCAAGG TGATATTCGC ATTAAACTCT TCCCTAAACT    660

CGCTCCTCTA GCGGTTGAAA ATTTCCTCAC TCACGCCAAA GAAGGCTACT ATAACGGTAT    720

TACCTTCCAC CGTGTCATCG ATGGCTTTAT GGTCCAAACT GGAGATCCAA AAGGGGACGG    780

TACAGGTGGT CAGTCCATCT GGCATGACAA GGATAAGACT AAAGACAAAG GAACTGGTTT    840
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771

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CAAGAACGAG ATTACTCCTT ATTTGTATAA CATCCGTGGT GCTCTTGCTA TGGCTAATAC      900

TGGTCAACCA AACACCAATG GCAGCCAGTT CTTCATCAAC CAAAACTCTA CAGATACCTC      960

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AAACCCTAGT CTAGATGGCA AACACCCAGT CTTTGGTCAA GTGATTGACG GTATGGATGT      1080

TGTGGATAAG ATTGCTAAGG CCGAAAAAGA TGAAAAAGAC AAGCCAACTA CTGCTATCAC      1140

AATCGACAGC ATCGAAGTGG TGAAAGACTA CGATTTTAAA TCTTAAAAAC CAAAAAAATA      1200

CAGTATCCAC ATTCGGTACT GTATTTCTTT TACTCTCATT CTTAAGTTAA ATTATTAAAA      1260

TCCCATATTT GGTCTATCCA GCCTTCATAA AAGTCTGGCT CGTGGCAGAC CATAAGGATA      1320

GATCCCCTAT ATTCTTTGAG AGCGCGTTTG AGCTCATCCT TTGCATCCAC ATCCAAATGG      1380

TTGGTCGGCT CGTCCAGCAC TAAAACGTTG TTTTCACGAT TCATCAAGAG ACAGAAACGA      1440

ACCTTGGCTT GCTCTCCCCC TGATAATACT TGAATCTGGC TTTCAATATG TTTGGTTGTC      1500

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CGTTCGAAGG TAAGATTTAA AGGCTTAGTA AGAGGACGGT CGTAACCAAT TTGCAAGTTC      1800

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TCATAGTTTT GGAGATAGCG CTTGAGCCAA TCAATATGCT CAGCATCCAA GTAGTTGGTC      2220

GGCTCGTCCA ACAGCAAGAT ATCAGGCTTT TCAAGGAGAA GTTTTGCCAA AAGCACCTTG      2280

GTTCTTTGCC CACCTGACAA AGAAGTTACA TCCGTATCCA TGCCAAAGTC CATAACACCA      2340

AGAGCACGCG CTACTTCGTC AATCTTAGCA TCCAAGGTAT AGAAATCACG ACTCTCCAGA      2400

CGGTCTTGAA GTTCTCCTAC TTCTTCCATG AGAGCATCAA CATCCGCGCC GTCTTCAGCC      2460

ATTTTCATAT AGAGGTCATT GATACGAGCT TCAGCTTTGA AAAGCTCATC AAAAGCCGTA      2520

CGGAGAACAT CACGCACCGA CTGTCTTTCA GCAAGGACAG AGTGCTGATC CAAGTAACCA      2580
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772

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GCCGTCACAT ATTTGGACCA CTCAACCTTT CCTTCATCTG GCAGCATTTT ACCAGTCACG    2640

ATACTCATAA AGGTTGATTT TCCTTCACCA TTGGCACCGA CCAGGCCGAT ATGTTCTCCC    2700

TTGAGGAGAC GGAAGGACAC ATCTTCAAAA ATTGCACGGT CACCAAAACC GTGACTCAGA    2760

TTTTTAACTT CTAAAATACT CATTTTAATT CCTTACCTTG TTTTTATGTA ATCGTTTATA    2820

AAGGAGCCAA GCCAGATAGC CACCCAAAGT GTTGGTCCAC AAATCATCAA TCTCAAAGAC    2880

GCGATTGAAA TCAAAGAAAA AGTCCAAGAT TAATTGCGTA CACTCGATTC CAAGACTCAC    2940

AAGAAAACTA AAAAGAAGGA CCTTTTTTGT TTTCCGCAAA TTTGGAAATA GATAAAGGAG    3000

TTGGAAAATC AGAGGAAAAA ACAAGAAGAC ATTGAGGATA TTTTGTAAAA AAATCCAACA    3060

TAATTGTCCA ATGTCACTCA CTTCGCCCAG TTTCCAGAGA GAATTGAAAG GAGTCAAAAG    3120

AAAAACCAGG CGTCCAAGAT GCTGAATACC TGGAGTTCCC ACTCCCACGG TAGATTGTTC    3180

TTGAGGAGTA AAGCAAAAAC AGACAATGCA AATGCTATAG AAAATGACTC CCCAGACCAA    3240

AATATGATTA TAAGTCTTCT TCATCATTAA GGATTTACCG CTGCGACTGC CTTCTGGCGG    3300

TCACGTTTCA TTGTGTTAGA GCGCAATTGT CCACAAGCTG CGTCAATATC TGTACCATGC    3360

TCTTGACGAA CCACACAGTT GACCCCTTTT TTCTTAAGCG TATCATAGAA AGCCAACACG    3420

CACTCTTTGG GACTACGGCT ATATTGGTCA TGCTCACTAA CTGGGTTATA AGGAATCAAG    3480

TTTACATAAG ACAATTTCTT GATGTTCTTG AGCAATTCAG TCAATTCCAA GGCTTGTTCT    3540

ACACCGTCGT TGACTTCATT AAGCATGATA TATTCAAAGG TTACACGACG GTTTGTTGTC    3600

TCAATGTAGT ATTCAATAGC AGCAAAGAGT TTTTCAATCG GAAAGGCACG GTTAATCTTC    3660

ATGATACTTG AACGAAGTTC ATTGTTAGGT GCGTGAAGAG ACACGGCAAG ATTGACCTGA    3720

ACCCCTTCAT CAGCAAAGTC ACGAATTTTA TGAGCCAAAC CTGAGGTTGA AACCGTGATG    3780

TGACGAGCAC CGATAGCCAT TCCTTTATCA TCATTGATAG TACGAAAGAA ATTCAAGACA    3840

TTGTTGTAAT TATCAAAGGG CTCACCGATT CCCATGACAA CGATATGGCT GATGCGTTCA    3900

TCCTGACCAC GCTCATCAAA GTATTTCTGA ACCAGCATGA TTTGCGCTAC GATTTCACCG    3960

TTATTGAGGT CACGTTGCTT CTTAATCAAA CCAGAGGCAC AGAAGGTACA ACCGATATTA    4020

CAGCCGACCT GAGTGGTCAC ACAGACAGAT AAACCATAGT GTTGACGCAT GAGTACAGTC    4080

TCAATTAACA TACCGTCGGG CAATTCAAAG AGATATTTGA CTGTACCATC AGCAGACTCT    4140

TGCACAATAC GTTGTTTCAA GGGATTGACC ACAAACTGGT CATTGAGCTT AGCAATCAAA    4200

TCCTTGGAAA GGTTGGTCAT TTCTTCAAAT GACTGCACAC GTTTACGGTA GAGCCATTCC    4260

CAGATTTGAT CTGCACGGAA TTTCTTTTCT CCCTGCTCCA ATACCCATTC CTGCATGGTT    4320

TGATGTACCA AACTATGAAT TGAGGGTTTC ATTTCTTCTC CTTATTCTCT ACTCACTTCT    4380
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773

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GACGAATGAC AAAATGACGT TGTCCCTTGT CGTCTTTCTG ACGACGTCTA TTTTTCTTAT      4440

CTGCATTCGA CTTTCGTTTA GTTTGAGTCG GTTTCTTTCC TTTTCTAGAA GGTGTTTCTT      4500

CTTCCGTCTT ACGCATTTTC TTGTCAAATG ATGCTCGCTT AGGGGCTTCA TTTTCTAAGA      4560

CAAAATAGGC ACAACCATAA CTACAATACT CTAAAAGGTA GTCTTGTAAA CGACTGATTT      4620

TTTCAAGTTT TTCTTCTGTT CGGTCATCCT TGTAAAAACC TCGTAGGCGA AGCTGTTCGT      4680

TGCTCCAGTC CCCCACGATA TAATCAAACT TGGTTAATAC TTCTGAAAAA CGCTGATTAA      4740

AAGTCGTCAC ATCAAAGGCA TCCTTGATAT TTTCAACCAA GGAAAAAGCT ATCCCTTCCG      4800

TTTCGACCTT GTCCCCGTGT AAATGGAACT CCGGACCAGG AAACTTGTTA TAGTTGTATA      4860

ATTCAGGTGC AATTTCTTTT CGCATAGATA TCCTTTTTTC ACGATTACTT AATACTTTAT      4920

TCTACCATAA TTTCTAGCAG TTAGCACGTT TCTCATAAAA ATGAAAAAAG TCTGACGATT      4980

TTGTCAGACC AGAATCTTAT AACCTAAAAA GAGAAGAACA ATTCTTCCCT CCAACTATCA      5040

TTATTTAGCA GCTGCGTACA ATTCATCTAC TTTATTCCAG TTGATTACTG AAAAGAAAGC      5100

TTTGATGTAG TCAGGACGCA CGTTGCGGTA TTTCACGTAG TAAGCATGTT CCCAAACGTC      5160

CAAGCCCAAG ATTGGTTTTT TACCTTCTGA GATTGGTGTG TCTTGGTTTG CTGTTGAAGT      5220

CACTTCAAGT TTCCCTTCTT TGTTGACAAC CAACCATGCC CAACCTGAAC CAAAACGAGT      5280

TGTTGCTGCT GCAGTGAAGG CTGCTTGGAA TTCTTCAAAT GAACCAAATG TTGCATCGAT      5340

TGCTGCTGCC AGTTCTGCTG AAGGAGCTGT TTTCTCGGGA GTCATCAATT CCCAGAAAAG      5400

AGCGTGGTTC AAGTGTCCGC CACCATTGTT GATAAGTGCT TGACGGATAT CAGCTGGGAT      5460

AGATTCTACA TCAGCAAGCA AGGCTTCAAG GTCTTCACCG ATTTCAGGGT GTTTTTCTAA      5520

AGCTGCATTG GCATTGTTGA CATAAGTTTG ATGGTGTT                              5558
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(2) INFORMATION FOR SEQ ID NO: 104:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6735 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 104:

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GGAATTGTAA ATATCATATT GTTTTTGCAC CCAAATATCG TCGTCAAATC ATTTATGGCA        60

GATACAAAGC TAGTATCGGA AGAATCATAC GTGACTTATG TGAGCGTAAG GGTGTAATAA       120

TCCATGAAGC GAATGCTTGT TCAGACCATA TTCACATGCT TATCAGTATT CCTCCGAAAC       180
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774

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TTAGTGTTTC GTCCTTTATG GGCTATTTAA AGGGCAAGAG CAGTTTGATG ATTTTTGATA    240

AGCATGCGAA TTTAAAATAC AAATATGGCA ATCGCAAGTT TTGGTGTAGA GGCTATTATG    300

TAGATACGGT AGGCCGTAAT CAGAAAGTGA TAGCTGAATA TATTCAGAAT CAATTACAAG    360

AAGACAGAGT AGCAGACCAG CTCACGTTAT TCGAGTCAGT AGATCCGTTT ACTGGCGAAA    420

TAAATAAGAG GAAGTAACTA AGGTGCTTTA GCACCTGCTC GGGAAAGTGG TGCGCGAGGA    480

AGCTATTTCG GTGGGCCTTT GGCCCTGGCC GGTAGAAGCG GCTTATAGCC GCAGAACAAA    540

CCACCAGTTC ACACTGGTGG TTTTGATTTA AAAAACTTGA TACATAAAAA TAAAAGTCTA    600

TATAAAGGAT GGTAAAATTC CTGTTGTCCG ATTTGGACAA TATCCTAAAT AGTTACAATA    660

TATGGTCTAT ACTTTTTCTT AGGAGAAAGC TAGATGTACA GACGTTTGAG AGATTTGAGG    720

GAGGATCATG ATCTGCCCCA AAAGCAAATA GCTACAATAC TTTCGTTTAC AAATTCAGCT    780

TATGCCAAAA TTGAACGGGG TGAGCATGCG TTGACGGCTG ATGTATTGGT TAAACTCTCA    840

GATTTCTATG ACGTCAGTAC AGACTATTTA TTGGGATTAA CTGATTTTCC TGATAAAATT    900

CGCTTTAGAA AATAATCTCC TCAATTTCAT AGAGTTTGAA AATGAGTGAG ATTTTTTATT    960

TGCCCTTTGA CAACTGAATA GCCTAAAATG GTACTTTCCT CATTTGTGGA GCAAATTTGA   1020

ATGGCTCGCC ATGATAAGAG CGATTTTAAA ATCATCAATA AAATAGAGCG ATACTTTATA   1080

TGCCATGATA CAAATGATAT ACAATGATAC TTCTGACCGT TCAGCCTGCC AACGTAAAAG   1140

AGCAGCAAGT GAAATTCTTA TGATGACTTC ATCAGTCATG CCACGTTGAA TGTGTGAGTT   1200

TGTTAGATAA ACGCAATTAA TCCTCAAAAG GTTCCCCGAA CCTTTTGAGT TCTACAGACG   1260

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AATAGACTTT CTGCGAAACA AAAATATAAT ACAATAAAAC TATGAATGAT GAAGCAAGTA   1380

AACAATTGAG CGATAGCCGT TTCAAGATCC TTGTAGGTGT TCAGCGCACG ACTTTTGAAG   1440

AGATGTTAGC TGTGTTAAAA ACAGCTTATC AACGTAAACG CGCAAAAGGT GGACGAAAAA   1500

GCAAATTAAG CCTAGACGAT CTCCTTATGG TAACTATTCA ATACATGCGA GAATAGAGCA   1560

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GGTATAATAG CAATCAAAAC TAGAAAATAA AACGGAATTT GGAACAGATT TGTCTGTATC   1800

CTAGTAGAGT GGTGATACTA TGAAGATTAG TAAGAGGCAC TTATTAAATT ATTCCATCTT   1860

GATTCCCTAC TTGCTTTTAT CTATTTTGGG CTTGATTGTG GTCTATTCGA CCACCAGTGC   1920

TATTTTAATT GAAGAAGGCA AGAGCGCCTT GCAGTTGGTT CGAAACCAAG GAATCTTTTG   1980
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775

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GATTGTTAGT TTGATACTGA TTGCCTTAAT TTATAAATTG AGACTAGATT TTTTGAGAAA      2040

TGAGCGACTA ATCATTTTAG TTATATTAAT AGAAATGCTT TTATTGTTCT TGGCTCGTTT      2100

TATTGGTATT TCCGTAAACG GGGCATACGG TTGGATTTCG GTTGCAGGAA TAACTATTCA      2160

GCCAGCTGAG TACTTAAAAA TCATTATTAT TTGGTATTTA GCTCACCGAT TCTCCAAACA      2220

GCAAGAAGAA ATAGCTACTT ATGATTTTCA AGTTTTGACT CAAAATCAAT GGCTTCCCCG      2280

TGCTTTTAAT GATTGGCGAT TCGTTCTCCT AGTTCTGATT GGAAGTTTGG GAATTTTCCC      2340

TGATTTAGGA AATGCGACTA TTTTAGTCTT GGTTTCCTTG ATTATGTATA CAGTTAGTGG      2400

AATCGCTTAT CGCTGGTTTT CAACCATTCT GGCGCTCGTA TCTGCCGCTT CTGTCTTTGT      2460

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TGTAGCCAAG CGCTTTAGTG CCTTTTTTAA TCCTTTTGCC GATCGTGCTG ATGCAGGTCA      2580

CCAGTTAGCT AATTCTTATT TTGCCATGGT CAATGGCGGT TGGTTTGGTC TAGGTCTTGG      2640

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CGTGATTGAA GAATTTGGCT TTGTTGGTGC CAGTCTTATT TTAGCTCTCT TGTTTTTCAT      2760

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ACTCGGTGTC GGAGGGATGA TGTTGGTTCA GGTATTTGTC AATATCGGAG GGATTTCGGG      2880

CTTGATTCCA TCTACAGGAG TGACTTTCCC CTTCTTATCC CAGGGTGGAA ATAGTCTTCT      2940

AGTCTTATCA GTGGCAGTAG CCTTTGTCTT AAATATTGAT GCCAGTGAAA AACGCGCTAA      3000

ATTGTACCGA GAATTGGAAA ATCAACCAAT GAACCTTCTG TTGAAGTAGG ATAAAGAAAG      3060

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AAGTCTTGAT TCTAACAGAA TTACTGGAAG ATATTACTAA AAATATGCTT GCCCCAGAGA      3180

CCTTTGAAAA AATAATACAG TTGAAAGAAT TATCAACGCA GGAAGATTAT CAAGGTCTAA      3240

ACCGTCTAGT GACTAGCTTA TCAAATGATG AAATGGTCTA TATTTCACGC TATTTCTCTA      3300

TCTTGCCTCT TTTGATTAAT ATTTCAGAGG ATGTGGATTT AGCTTATGAA ATCAATCATC      3360

AAAATAATAT TGATCAGGAC TATTTAGGTA AATTATCTAC AACGATTAAA TTGGTAGCAG      3420

AAAAGGAAAA TGCCGTTGAG ATCCTAGAAC ACTTGAATGT TGTCCCTGTT TTGACAGCCC      3480

ATCCAACACA AGTGCAACGC AAAAGTATGT TGGATTTAAC AAATCATATT CATAGTCTTT      3540

TGCGTAAATA CCGTGATGTT AAGTTGGGGT TGATCAATAA AGATAAATGG TACAATGATT      3600

TGCGTCGTTA CATCGAAATT ATCATGCAGA CAGACATGAT TCGTGAGAAA AAATTAAAAG      3660

TGACTAACGA AATCACGAAT GCTATGGAAT ATTATAACAG CTCCTTTTTG AAAGCTGTAC      3720
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776

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CTCATTTGAC GACGGAGTAT AAGCGCTTAG CGCAAGCGCA TGGTCTGAAT TTAAAACAGG      3780

CTAAACCAAT CACCATGGGT ATGTGGATAG GTGGTGACCG TGATGGAAAT CCATTTGTTA      3840

CAGCAAAGAC CTTGAAGCAG TCTGCACTCA CTCAGTGTGA AGTCATCATG AACTACTATG      3900

ATAAAAAGAT TTACCAACTT TATCGTGAAT TTTCTCTTTC AACTAGCATT GTCAACGTCA      3960

GCAAGCAAGT CAGAGAAATG GCTCGTCAAT CCAAGGATAA CTCGATTTAC CGCGAAAAAG      4020

AGCTTTACCG TCGTGCCTTG TTTGATATTC AATCAAAAAT TCAGGCAACT AAAACCTATC      4080

TGATTGAGGA TGAAGAAGTT GGGACTCGTT ATGAAACCGC CAATGATTTC TACAAGGATT      4140

TGATTGCCAT TCGAGATTCT CTACTAGAAA ATAAGGGCGA GTCCTTGATT TCAGGTGATT      4200

TTGTGGAATT ATTGCAGGCA GTAGAGATAT TTGGTTTTTA CTTAGCATCA ATTGATATGC      4260

GACAAGACTC TAGCGTCTAT GAAGCCTGTG TGGCAGAACT CTTGAAATCA GCAGGAATTC      4320

ATTCTCGTTA TAGCGAGTTG AGCGAAGAAG AAAAGTGTGA CCTTCTCTTG AAAGAATTAG      4380

AAGAAGATCC CCGAATTCTT TCTGCGACTC ACGCAGAAAA ATCAGAATTA TTAGCAAAAG      4440

AATTAGCTAT TTTTAAGACG GCTCGTGTTT TGAAAGATAA GTTGGGAGAT GATGTCATCC      4500

GTCAGACCAT CATTTCACAT GCAACCAGCC TTTCTGATAT GCTAGAATTA GCTATTCTGT      4560

TAAAAGAAGT AGGACTGGTG GATACGGAAA GGGCGCGTGT TCAGATTGTT CCCCTTTTTG      4620

AAACAATTGA AGACTTGGAT CATTCAGAGG AAACAATGAG AAAATATCTT TCTCTTAGCC      4680

TTGCCAAAAA ATGGATTGAC TCACGAAATA ACTACCAAGA AATCATGCTT GGCTACTCTG      4740

ACAGTAATAA AGATGGCGGT TACTTGTCAT CATGTTGGAC CCTCTACAAG GCTCAACAAC      4800

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GTACTGTCGG TCGTGGTGGT GGGCCAACCT ATGAAGCCAT TACATCTCAA CCGCTCAAGT      4920

CTATCAAGGA TCGTATCCGC TTGACGGAGC AGGGTGAAGT AATTGGGAAT AAATACGGTA      4980

ACAAAGACGC CGCTTACTAT AACCTTGAAA TGCTAGTATC GGCAGCTATT AACCGTATGA      5040

TTACTCAGAA GAAGAGCGAT ACCAATACCC CAAATCGTTA TGAAACCATT ATGGATCAAG      5100

TAGTGGACCG TAGTTACGAT ATCTACCGTG ATTTGGTCTT TGGTAATGAG CATTTCTATG      5160

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AATTTATCAA TAAAAATCCA GAGAATATTG CTATCTTACG AGATATGTAC CAAAATTGGC      5400

CTTTCTTCCA ATCGCTTCTT TCAAATGTTG ATATGGTTTT GTCAAAATCA AATATGAATA      5460

TTGCTTTTGA ATATGCTAAA CTTTGTGAAG ACGAGCAAGT TAAGGCCATC TATGAGACTA      5520
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777

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TTTTAAATGA ATGGCAAGTT ACTAAGAACG TTATCTTGGC TATTGAAGGA CATGACGAAC      5580

TCTTAGCTGA CAATCCATAT CTAAAAGCTA GTCTGGATTA CCGTATGCCT TACTTTAATA      5640

TTCTCAACTA TATTCAGTTG GAGTTGATTA AACGCCAACG TCGTGGAGAA TTGTCCAGTG      5700

ATCAAGAACG ATTGATTCAT ATCACCATCA ACGGAATTGC GACAGGATTG CGTAATTCAG      5760

GTTGATAATT TTCAAGAGTG AATGCTAAAA GTGAATATCA AAAAAATTCT AATAGACTAT      5820

TGACAAGTAG TTTAAAAATG ATATAATTTA ACCATTCAGA AAAGTAATCA TACAAACTTT      5880

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CTATTTAGAA TTTGAAATTA TAAAAATTCG GTAAGCACAC CTTACAGTGC ATCTCGTTAT      6000

TGCGAGACTG AGCGATAGGG AAATTCCCTA TAATTGAGGT GGTACCGCGC ATCGACGTCC      6060

TCACACAAGT TTTTTGTGTG AGGATTTTTT TGATGGAGGT TAGTATGGAA AGAAAACGAT      6120

GGCGTCGCTT GTTTAGATAA GTGAAATATG TTAAAGGAAA TAAAAAGGAG AAACAGAATG      6180

AAAAATAAAC GTTTAATTGG AATTATTGCT GCATTAGCAG TCTTAGTAGC AGGAAGCTTG      6240

ATTTATTCTT CAATGAATAA ATCAGAAGCT CAGAATAATA AGGATGAGAA GAAAATAACC      6300

AAGATTGGTG TGCTTCAATT TGTGAGCCAT CCATCCCTTG ATTTGATTTA TAAAGGGATC      6360

CAAGATGGAC TTGCAGAAGA AGGATATAAA GATGATCAAG TTAAAATTGA TTTTATGAAC      6420

TCAGAAGGTG ACCAAAGTAA GGTTGCGACA ATGAGTAAAC AATTGGTTGC AAATGGGAAT      6480

GACCTTGTGG TTGGTATCGC AACACCAGCA GCCCAAGGGT TGGCTAGTGC AACAAAAGAC      6540

CTACCGGTTA TCATGGCCGC TATTACAGAC CCAATTGGTG CTAACTTGGT TAAAGATTTG      6600

AAAAAACCAG GTGGCAACGT TACAGGGGTA TCTGACCACA ATCCAGCTCA ACAACAAGTT      6660

GAACTCATCA AGGCTCTGAC ACCGAATGTG AAAACAATCG GAGCTCTTTA CTCAAGTAGC      6720

GAAGACAATT CAAAA                                                       6735
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(2) INFORMATION FOR SEQ ID NO: 105:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6516 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 105:

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CTAGAGGATC CCAGCAGGTA AATTGGCTTC AGCTGGCAAA AAAGTTGCCC TCGTTGAACG       60

CAGCAAGGCT ATGTACGGTG GAACTTGTAT CAACATTGGT TGTATCCCAA CTAAAACCTT      120
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778

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GCTAGTTGCT GCTGAAAAGG ACTTGTCTTT TGAAGAAGTC ATTGCTACTA AAAACACGAT          180

CACTGGTCGC CTCAACGGTA AAAACTATGC GACTGTTGCT GGTACAGGCG TAGATATCTT          240

TGATGCGGAA GCTCACTTCC TTTCAAATAA AGTCATCGAA ATCCAAGCTG GTGATGAAAA          300

GAAAGAACTG ACTGCTGAAA CAATCGTCAT CAACACTGGT GCTGTTTCAA ACGTCTTGCC          360

AATCCCTGGA CTTGCTACAA GCAAAAACAT CTTTGACTCA ACAGGTATCC AAAGCTTGGA          420

CAAATTACCT GAAAAACTTG GAATCCTTGG TGGCGGAAAT ATCGGTCTTG AATTTGCCGG          480

CCTTTACAAC AAACTTGGAA GCAAGGTCAC AGTCCTAGAT GCCTTGGATA CATTCCTACC          540

TCGTGCAGAA CCTTCCATCG CAGCTCTTGC TAAACAATAC ATGGAAGAAG ATGGCATTGA          600

ATTGCTTCAA AATATCCATA CTACTGAAAT CAAAAACGAT GGTGACCAAG TGCTTGTCGT          660

AACTGAAGAC GAAACTTACC GTTTCGACGC CCTTCTCTAC GCAACTGGAC GCAAACCAAA          720

TGTAGAACCA CTTCAACTTG AAAATACAGA TATTGAACTA ACTGAACGTG GTGCTATTAA          780

AGTAGACAAA CACTGTCAAA CAAACGTTCC TGGTGTCTTT GCAGTTGGAG ATGTCAACGG          840

TGGCCTTCAA TTTACTTACA TTTCACTTGA TGACTTCCGT GTTGTTTACA GCTACCTTGC          900

TGGAGATGGC AGCTATACAC TTGAAGACCG TCTCAATGTG CCAAATACTA TGTTCATCAC          960

ACCTGCACTT TCACAAGTTG GTTTGACTGA AAGCCAAGCA GCTGATTTGA AACTTCCATA          1020

CGCTGTTAAG GAAATCCCCG TTGCAGCAAT GCCTCGTGGT CACGTAAATG GAGACCTTCG          1080

CGGTGCCTTC AAAGCTGTTG TCAATACTGA AACAAAAGAA ATTCTTGGAG CAAGCATCTT          1140

CTCAGAAGGT TCTCAAGAAA TCATCAACAT CATCACTGTT GCTATGGACA ACAAGATTCC          1200

TTACACTTAC TTCACAAAAC AAATCTTCAC TCACCCAACC TTGGCTGAGA ACTTGAATGA          1260

CTTGTTTGCG ATTTAAGTTG AGATTTAATC GTATCGAACA GCCCTCTTTG GGCTGTTTTT          1320

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TTAAAAACTA CTTTGGGCCT TCTTGCTGGG CGTTCTTCCC ACTTCGTTTT AAGCCGTCTT          1440

GGACGTGGAA GTACGCTCCC AGGGAAAGTC GCCCTTCAAT TTGATAAAGA TATTTTACAA          1500

AACCTAGCTA AGAACTACGA GATTGTCGTT GTCACTGGAA CAAATGGAAA AACCCTGACA          1560

ACTGCCCTCA CTGTCGGCAT TTTAAAAGAG GTTTATGGTC AAGTTCTAAC CAACCCAAGC          1620

GGTGCCAACA TGATTACAGG GATTGCAACA ACCTTCCTAA CAGCCAAATC TTCTAAAACT          1680

GGGAAAAATA TTGCCGTCCT CGAAATTGAC GAAGCCAGTC TATCTCGTAT CTGTGACTAT          1740

ATCCAGCCTA GTCTTTTTGT CATTACTAAT ATCTTCCGTG ACCAGATGGA CCGTTTCGGT          1800

GAAATCTATA CTACCTATAA CATGATATTG GATGCCATTC GGAAAGTTCC AACTGCTACT          1860

GTTCTCCTTA ACGGAGACAG TCCACTTTTC TACAAGCCAA CTATTCCAAA CCCTATAGAG          1920
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779

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TATTTTGGTT TTGACTTGGA AAAGGGACCA GCCCAACTGG CTCACTACAA TACCGAAGGG      1980

ATTCTCTGTC CTGACTGCCA AGGCATCCTC AAATATGAGC ATAATACCTA TGCAAACTTG      2040

GGTGCCTATA TCTGTGAAGG TTGTGGATGT AAACGTCCTG ATCTCGACTA TCGTTTGACA      2100

AAACTGGTTG AGTTGACCAA CAATCGCTCT CGCTTTGTCA TAGACGGCCA AGAATACGGT      2160

ATCCAAATCG GCGGGCTCTA TAATATCTAT AACGCCCTAG CTGCTGTGGC CATCGCCCGT      2220

TTCCTAGGTG CCGATTCGCA ACTCATCAAA CAGGGATTTG ACAAGAGCCG TGCTGTCTTT      2280

GGACGCCAAG AAACCTTTCA TATCGGTGAC AAGGAATGTA CCCTTGTCTT GATTAAAAAT      2340

CCAGTCGGTG CAACCCAAGC TATCGAAATG ATCAAACTAG CACCTTATCC ATTTAGCCTA      2400

TCTGTCCTCC TTAATGCCAA CTATGCAGAT GGAATTGACA CTAGCTGGAT CTGGGATGCA      2460

GACTTTGAAC AAATCACTGA CATGGACATT CCTGAAATCA ACGCTGGCGG TGTTCGTCAT      2520

TCTGAAATCG CTCGTCGCCT CCGAGTGACT GGCTATCCAG CTGAGAAAAT CACTGAAACG      2580

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CATCCTCATG CTCAAGTATG TGGCTGAAAA ACTGGGAGCC CATGTGACCG TTGACATCGT      2880

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CTACATCCAA AACGACGGTG TAGTTCTGGC TATCTGCGGT GGTTTCCAAC TATTGGGTCA      3060

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GCTCAACCAG ACCAATAACC GTTTTATCGG TGACATCAAG ATTCACAATG AAGATTTCGA      3180

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CCCTGCCTAT GAGGACATTC TCAGCCAAGA AATCGCTGAA GAGTACAGTG ACGTCAAAAG      3480

CAAGGCTGAC TTTTCTTAAA CAAAGGAAAA TGATATCAAA GAACTCCGTT ATCTTGTCGG      3540

AGTTTTTTGT CTTTTCTTTT ACCCTTCTCC CTTGCATTTT CTCTCATTTT TTGCCAAAAT      3600

AGAGGGGTAG AAAGAAGGTA GCATATGTCT AAATTACAAC AAATCCTAAC ATATCTTGAA      3660
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                                    780
TCAGAAAAAC TAGACGTCGC TGTCGTATCT GACCCCGTCA CAATCAATTA CCTCACTGGT    3720

TTTTACAGTG ATCCCCATGA ACGCCAAATG TTCCTCTTTG TCCTAGCAGA TCAGGAACCT    3780

CTCCTCTTTG TCCCAGCTCT TGAAGTAGAA CGTGCAAGTA GCACCGTTTC CTTCCCAGTA    3840

GTGGGCTATG TCGATTCTGA AAATCCATGG CAAAAAATCA AACATGCTCT TCCACAACTT    3900

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CAAATCGACT TTGCCATGAA ACGTGAAGGT TATGAAATGA GCTTTGATAC CATGGTCTTG    4200

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ACAGTCGCTG TCGGCAAACC AGACCAATTC AAGAAAGATA TTTACAACTT GACTCTTGAA    4380

GCCCAACAAG CTGCTCTTGA CTTTATCAAG CCAGGTGTGA CTGCTCATGA AGTGGACCGC    4440

GCTGCCCGTG AGGTCATCGA AAAAGCTGGT TATGGTGAGT ACTTCAACCA CCGTCTCGGG    4500

CATGGTATCG GTATGGATGT CCATGAATTC CCATCTATCA TGGAAGGAAA CGACATGGTC    4560

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AGCAAAGATT TGCTTTATTT TGATTAAACT ATATAGCCCC TATGCTTTCC TTTCAAAATA    4740

TCTAGGGGCT ATTTTATTGT CATTTTTCTG CTATTATGCT AAAGAAATTG GCTGCAATAA    4800

TCTAACCCTA AGTGTCTGGA ATGATAACGA GGGTGCTCTC CGCTTTTATC AAAGACAAGG    4860

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GATGTTAGAA AAAGTTCAAT TTCACTAGAA AATGAGGAAA ATCTCCCCAC AATAAAACGC    4980

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TAGTAATCAA TATAGTCTAT AATGACTTGT TCCAATTGGT TAAGTGATTT AAATGTTTTC    5160

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TCTTGGCTGT TTCCCTTGCG TGACATAGAT GCTTGAATTC CCTTATTCTC TAGGAACCGA    5280

TGATAAGAAT CGTGTTGGTA TTGCCAGCCT TGGTCACTAT GGAGAATCGT ATTCTCGTAG    5340

TGCTTCTCTT TGAATGCCTG TTCCAACATT GTTTGTACTT ATTCTAAATT AGGCGAACAA    5400

GAAAGATTAA AAGCAATAAT TTCGCTGTTA AAGCCATCTA AAACTGGTGA TAAGTAAAGC    5460
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781

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TTTTGAGTAC TTGCTGGAAT GGCAAATTCA GTCACATCTG TGTAGCACTT TTCCATTGTT    5520

TTAGAGCCTT CAAATTGGGC TTGAATGAGA TTCTCTGCCT TCTTACCAAC GTCTCCTTTA    5580

TGAGAAGAAT ATTTTCGTTT CTTTCGCATT TTAGCTTGTA AATTGAGTAC TTTCATCAAG    5640

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CATTCTCCGC TCTCAGGTAC TCTCCCTCTT GTTTTCTCAA CAATAGTATA CCCGTTTTTC    6000

CTGTATTGTG CTAGCCAGTT AAGAAGTATC GTACGACTTG GGAGACCGTA TTCAAGAGAA    6060

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TCTAAAAACC ATCCAGAATC CTTGCCTTAG CTTAGATCCT GGATGGTTTC TTTTTTCACC    6180

CAATGGGTGT TTTTTACTAG ACAAAAAAGA GTTTCCCCTT TATGGTATAA GTGTAGAAAA    6240

AAACACAAAA AGAAAGGAAA CTCACATGAA CAGTTTACCA AATCATCACT TCCAAAACAA    6300

GTCTTTTTAC CAACTATCTT TCGATGGAGG TCATTTAACC CAGTATGGTG GTCTTATCTT    6360

TTTTCAGGAA CTTTTTTCCC AGTTGAAACT AAAAGAGCGG ATTTCTAAGT ATTTAGTAAC    6420

GAATGAmCAA CGCCGCTACT GTCGTTATTC GGATTCAGAT ATCCwTGTCC AGTTCCTCTT    6480

TCAACTGTTA ACAGGTTATG GAACGGAATA TGCTTG                              6516
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(2) INFORMATION FOR SEQ ID NO: 106:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 14654 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 106:

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TTTTCAACCC ATATCGTGGC TCCTGAATAC TACTTACTGA CAACTATGCT ATCAGAGACT     60

TCTCTACTTG TTTTCTATAT CATTTTCATC CATAGAAAAC AACTCATCCA CTTGGGACAT    120

ATCTTTAGCT ATACTGTTCG ATACTCTCTC TTTTCACTTT CCTTTGTAGC AATTTATTTC    180

CTGATTAATT TCGTGTATCC TGTAGATATG GTCATTAATT TGCCATTTTT GATTAATACT    240

GGTTTGATTG TCTTGCTATC AGCTATCTCT TATATTAGTC TACTTGTCTT CACAAAAGAT    300
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782

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AGCATTTTCT ATGAATTTTT AAACCATGTC CTAGCCTTAA AAAATAAATT TAAAAAATCA       360

TAGGAGTTTA AAATGAAACA ACTAACCGTT GAAGATGCCA AACAAATTGA ATTAGAAATT       420

TTGGATTATA TTGATACTCT CTGTAAAAAG CACAATATCA ACTATATTAT TAACTACGGT       480

ACTCTGATTG GGGCGGTTCG ACATGAGGGC TTTATCCCTT GGGACGACGA TATTGATCTG       540

TCCATGCCTA GAGAAGACTA CCAACGATTT ATTAACATTT TTCAAAAGGA AAAAAGCAAG       600

TATAAGCTCC TATCCTTAGA AACTGATAAG AACTACTTTA ACAACTTTAT CAAGATAACC       660

GACAGTACGA CTAAAATTAT TGATACTCGA AATACAAAAA CCTATGAGTC TGGTATCTTT       720

ATCGATATTT TCCCTATAGA TCGCTTTGAT GATCCTAAGG TCATTGATAC TTGTTATAAA       780

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AAAACAATCG ATTTACCCTT TGAGAATTTA AGCCTTCCTG CACCTGAAAA ATTTGATACT      1080

ATTTTGACAC AATTTTATGG AGATTATATG ACCCTACCAC CAGAAGAAAA ACGCTTCTAC      1140

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AATTAAAGAA ATTCAACTAG CCCTGCTGGA CTATATTGAT GAGACTTGTA AGAAACATGA      1260

TATTCCTTAT TTTCTCAGTT ATGGAACCAT GCTTGGAGCC ATCCGCCACA AAGGTATGAT      1320

TCCTTGGGAT GATGATATTG ATATTTCCCT TTATCGTGAG GATTATGAGC GTTTACTGAA      1380

GATTATTGAA GAAGAAAATC ACCCTCGCTA CAAGGTTCTT TCCTACGATA CATCTTCTTG      1440

GTACTTCCAT AATTTCGCAT CGATTTTGGA CACTTCTACT GTTATAGAAG ACCATGTTAA      1500

GTACAAGCGT CATGATACCA GCCTTTTCAT CGATGTCTTC CCAATTGATC GATTTACAGA      1560

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AAATGCTGTA ACCAACACTC CTCAATATGA AGGAGGAGTT GGGATCGGTA AGGAAGGGAT      1800

GAAAGAAATC TTCCCAGTTG ATACCTTTAA AGAACTGATT TTAACTGAGT TTGAGGGCCG      1860

TATGTTGCCT GTTCCCAAAA AATATGACCA ATTTTTAACC CAGATGTATG GCGATTATAT      1920

GACACCACCA TCAAAGAAA TGCAAGAGTG GTATAGTCAT AGCATTAAAG CTTATCGCAA      1980

AAACTGATTG AGGGGGATTA TACAAACTAC TAAGATAGAG GTTATTCAAA AACATAATTT      2040

TAGTAGAAAA TGAAATACAT ATTCCCACAA TAAAACGCAT CATATCAAGG TTTTTGAAAA      2100
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783

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ATGCGAACAA ATCAATTAGA AAAATTCAAAT TAATTTATAG AAATATTTTA GTATTCCTGT       2220

GTACTGTTCT AAATTCAGTC TGCTATATCT TATTTTTCTA TTTAAATCGC TTCTGTAACA        2280

AAGCTACGAC TTTCAAGTAC CTTAAGCATG GCATTAGCTG TATCTAGCGC TGTGAAGAGG       2340

GGCACCCCGT GTTCAATGGC TGAACGACGA ATTTGCTCAC CATCTTCGTC AGCAGTTCGT       2400

TTTGTTCCTA CTGTGTTAAT GATAGCTTGA ATTCTTCCTT TGCGTACAAA ACTTGGGATA       2460

TCCTTATCGT CATCACCAAT CTTACCAACA GGTTGGGCTT GCAAGCCATG ACTAGCAAAG       2520

AAGGCTGCTG TCCCTTCTGT CGCAAGGATT CCATAACCAA TGTTTTGGAA ACGACGAGCC       2580

AAGTTCAAGG CTTCTTCTTT GGCATCATCA GCGATGGTAA AGACGACATT ACCAAAAGTT       2640

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GAACCCATAA CTTCACCTGT TGACTTCATT TCAGGACCGA GCAAGCTGTC TACCTTAGCT       2760

AGTTTGGTAA AGGAGAAGAC AGGTGCCTTG ATATGAACAC GGGTGCTTTC AGGGTAAAGT       2820

CCATTTTGGT AGCCAAGTTC TGATAAACTT TGACCAAGAA TGAGTTTGGT CGCTACTTGA       2880

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GCGTAGTCAA ACTCAACCCC TTGACCGATA CGGATTGGAC CTGAACCTAG GACAAGTACA       3780

GATTCTTTAT CAGATCTGAT AGATTCATTT TCCCAACCAT AGGTTGAATA GAAATATGGC       3840
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784

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GTTTCGGAGT CGAACTCTGC CGCACAAGTG TCTACCATCT TATAAACTGG AACAATCTTG    3900

TTTTCCAAGC GAAGTTGGCG AACTTTATCA TCAGTCGTTC CCCAGAGTTC AGCAATCTTA    3960

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TTTGTAAGCT CTGCAATTTC TTCAGGTGTG TAGCCACGAC GAATGGCTTC TGATACGTAG    4140

AAGAGACGGT CATCTTGGGC TTTGACAACC TTTTCAATCA AGGCATCATC AGAAACTGCT    4200

GCAAGTTCAG GTATTTCATT GTGGTGCACC CCAATTTCAA GGGAGCGGCA GGCCTTGAGA    4260

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TTTTTAGCAC CGTCCGTAGC CCGTATTCAG TTCAGCAAAT ACGGAGCACC CTTCTCCTTT    5580

CTATTCGTCG CCTCTCAGGG CGACATTAAA TAAGATACAA AGGACGAATA GAAAGCGATT    5640
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785

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GAATTTTAGG AAATCAAGGA AGGATTGACA ATCCAAGTTG GTTTCTCTAC ATTCTGAGCT    5700

TTCCGTCCGT GTTCAGTTAC ATAAATTCTC CGACGAGCTT TTACTCGTTC TTAGTTTGAT    5760

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TCACGTACCG CATGGTTGAA TCCACGGTGG CCAAACTTCA TCTTATAGGT CTTAGCCCCG    6060

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TCCACTAGCA CCACGCTCAA ACCAACTCCT GGAGCTGGAT AAGACGTTTT AGTAGAAACC    6360

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AATAGCAACT TTAAGACCCT CAAAGTGGCC AAATTCCTCA TAAATGGTCA TCAAATCAAG    7380
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786

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ATCCACTCCT AAAGCAGACA GAGTCAAAAT GGTGTCATAA AGTGTCTCAC CCTTATTAAC      7560

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TGATAACATG ACCGCAACCA GGAGTTCAAA ATGATTGGTA AAATCAAGAC TAGGCTTGGC      9120

ATCTGGGAAG AGGGCAATGA TTTCTTCTAG CACCTTTCGT GCTCGTTTTT TTGACAAGAC      9180
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787

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GGAGGAATTG CATTTTGATA GCAATCGTTT CGCAAGTGAC CAAGAGATTG GCAATCTATC    10860

AGGGGGCGAA GCTTTGAAAA TTCAGCTTAT CCATGAGTTA GCCAAACCCT TTGAGATTCT    10920
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                                    788
ATTTTTAGAT GAACCTTCAA ATGACCTAGA CCTTGAGACA GTTGATTGGC TAAAAGGCCA    10980

GATTCAAAAG ACCAGGCAAA CCGTTATTTT CATTTCCCAT GATGAAGACT TTCTTTCTGA    11040

AACGGCAGAC ACTATTGTTC ACTTGCGACT GGTCAAACAC CGTAAAGAAG CGGAAACGCT    11100

AGTAGAGCAT TTAGACTATG ATAGCTATAG TGAGCAGAGA AAGGCTAATT TTGCCAAACA    11160

AAGTCAGCAA GCTGCTAACA ACCAAAGAGC CTACGATAAA ACCATGGAAA AACATCGGAG    11220

AGTTAAGCAA AATGTAGAAA CTGCGCTTCG AGCTACCAAA GATAGTACTG CCGGTCGCCT    11280

ATTGGCTAAA AAGATGAAAA CTGTCCTCTC ACAAGAAAAA CGCTACGAAA AGGCAGCTCA    11340

GTCCATGACT CAAAAGCCAC TTGAAGAGGA ACAAATCCAA CTTTTCTTTT CAGACATCCA    11400

ACCATTACCA GCTTCTAAAG TCTTAGTCCA ACTGGAAAAA GAAAATTTGT CCATTGACGA    11460

CCGAGTTTTG GTTCAAAAAC TACAACTAAC TGTCCGTGGC CAAGAAAAAA TCGGTATTAT    11520

CGGGCCAAAT GGTGTTGGGA AATCAACTCT GTTAGCCAAG TTACAGAGAC TTCTGAATGA    11580

TAAAAGAGAG ATTTCACTTG GTTTTATGCC ACAAGATTAC CACAAAAAAC TGCAATTGGA    11640

TTTATCCCCA ATAGCCTATC TCAGTAAAAC TGGGGAAAAA GAGGAACTAC AGAAAATCCA    11700

ATCTCACCTA GCTAGTCTCA ATTTCAGTTA TCCAGAAATG CAGCATCAAA TTCGCTCCTT    11760

ATCTGGCGGA CAACAGGGAA AACTCCTGCT TTTGGATTTA GTCCTGCGCA AACCAAACTT    11820

TCTCCTGCTG GATGAACCCA CACGAAACTT TTCTCCCACT TCTCAACCCC AAATCAGAAA    11880

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CCCCCACCTT TCTTAGGATC ATTGATATAA AGGGCACTGC TAGCATCATC GACGTGGCGA    12180

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TCTAGTTCTT CACGATTCAT GATAGCTAGT AGACCTGAAG TCGCAGCAAC AGCCGCATTT    12600

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GGCATAGGAA TCTGAGCGAC CAGAGCCATA TCTTCCACTA CATGGTAGAG GTCTGGTGCC    12720
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789

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ATCATAGACA AAGCGTAGAT AAAGCCGATA ATCAGTGCAA TAACCAAACC ACCAAGTCCA    12840

GATCTTATAA AGAGATAACC AACCGCATAA CCAACAAGAG CTAAGAGTAG GAAAAATACC    12900

AGCAACAAAA TCCAGGTTTT TCGTTTATTG CTTGCAATTT GATCAAACAA CATCTTAGTC    12960

ACCTAAACCG CTAAAATCAA CTTTAGGAAC CGACTTTTCC TCTTCAGGTG TTTGAAGGAA    13020

ATCTGCCGCT TTAAATCCAA ACATTCCAGC GATAATATTG CTCGGGAAAG TTTCTAATTT    13080

TACATTGTAG TTGCTGACAA CACTGTTATA GAGTTGACGA GAGTAAGAAA TTTTATTTTC    13140

TGTGTTTGTC AACTCCTCTT GCAATTTAAC AAAGTTAGCA CTAGCTTTCA AATCTGGATA    13200

GCTTTCTGCA ACTGCAAAAA TACCTGAAAC CTGACGAGTG AGGGCATCAC TGGCTTTCAT    13260

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ATTGCGACGT TTCAACTGAA CATCAATCTG ACTCCAAGCC TCCTTGGTTT GCATACGATT    13440

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AATAATCCAA GTCATAATAT AAGTCCTTTC TGCTTTTAGA TTAGTACCAG TATATCAAAT    13560

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ACATTTTACA ACTTGCTTGC CGAGCAGAAT CTTCCACTTT CGGACCAGCA AAAAGAACAA    13680

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GGTTTGATTC CCAATGAAAC TATCAAACTT CTTGATATCG GGGCTGGGGC AGGATTTCCT    13860

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GCTAAGAATG CCCTCAATCT CCTTTTTAGT AAGGTCGAAG ACAATCTCAG TACGCCCTAC    14220

CGAATAGAGA TCCGCGCTAT ATCACAGTGG TAGAAAAGAA AAAAGAAACA CCAAATAAAT    14280

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TTTACAAAAT CAGCCTCGCT CTTTTATTTC TAGGCTCGGG AAAAAATGAT TTACAAAATC    14400

AGCCTCGCTC TTTTATTTCT AGGCTCGGGA AAAAATGATT TACAAAATCA TTTTTTTCTG    14460
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790

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CTATACTATC CTAAGCAAAG GTTTTTAATG TCATCCCGTG AGGTGACGAA GACGCAGAAA      14520

TATTTAAAAC TCTTTAAAAT CTAAATTTTA AAGAAGTCTT ACTCTGAGGG CCTATTGCTG      14580

TAAAATAATG GGCTCTTTTT TGATGCCCAA AAGTGAGGTT TATATGAAAC AAGAATCAAC      14640

TGTTGATTTG TTAC                                                        14654
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(2) INFORMATION FOR SEQ ID NO: 107:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6405 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 107:

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AGAAAAATCT GCTTTACAGA AAATAAAAAT AATAGGAGAA AATCTATGTC AGATTTGAAA        60

AAATACGAAG GTGTCATTCC AGCCTTCTAC GCATGTTATG ATGATCAAGG AGAAGTAAGC       120

CCAGAACGTA CGCGTGCCTT GGTTCAATAC TTCATTGATA AAGGTGTTCA AGGTCTTTAT       180

GTCAATGGTT CTTCTGGTGA ATGTATCTAC CAAAGCGTTG AAGATCGCAA GTTGATTTTG       240

GAAGAAGTCA TGGCGGTAGC AAAGGTAAAT TGACCATTAT TGCCCATGTT GCTTGCAATA       300

ATACTAAAGA TAGTATGGAA CTTGCTCGCC ATGCTGAAAG CTTGGGAGTA GATGCTATTG       360

CAACGATTCC ACCAATTTAT TTCCGCTTGC CAGAATACTC AGTTGCCAAA TACTGGAACG       420

ATATCAGTTC TGCAGCTCCA AACACAGACT ACGTGATTTA CAACATTCCT CAATTGGCAG       480

GGGTTGCTTT GACTCCAAGC CTTTACACAG AAATGTTGAA AAATCCTCGT GTTATCGGTG       540

TGAAGAACTC TTCTATGCCA GTTCAAGATA TCCAAACCTT TGTCAGCCTT GGTGGAGAAG       600

ACCATATCGT CTTTAATGGT CCTGATGAGC AGTTCCTAGG AGGACGCCTC ATGGGGGCTA       660

GGGCTGGTAT CGGTGGTACT TATGGTGCTA TGCCAGAACT CTTCTTGAAA CTCAATCAGT       720

TGATTGCGGA TAAGGACCTA GAAACAGCGC GTGAATTGCA GTATGCTATC AACGCAATCA       780

TTGGTAAACT CACTTCTGCT CATGGAAATA TGTACGGTGT CATCAAAGAA GTCTTGAAAA       840

TCAATGAAGG CTTGAATATT GGATCTGTTC GTTCACCATT GACACCAGTG ACTGAAGAAG       900

ATCGTCCAGT TGTAGAAGCG GCTGCTGCCT TGATTCGTGA AACCAAGGAG CGCTTCCTCT       960

AATCTAAAAG GAGGTATTTA TGACATATTA CGTTGCAATT GATATCGGTG GAACCAACAT      1020

CAAGTATGGT TTGGTTGATC AAGAGGGGCA ACTTCTTGAA TCGCATGAAA TGCCAACTGA      1080

GGCGCATAAG GGTGGACCTC ATATCTTACA AAAGACCAAA GATATCGTAG CTAGTTATTT      1140

AGAAAAAGGC CCAGTAGCAG GTGTTGCCAT ATCTTCTGCT GGGATGGTGG ATCCGGATAA      1200
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791

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GGGTGAGATT TTCTATGCTG GGCCGCAAAT CCCTAACTAC GCAGGCACCC AGTTCAAAAA      1260

GGAAATCGAA GAAAGCTTTA CTATTCCTTG TGAGATTGAA AATGATGTCA ACTGTGCAGG      1320

TCTTGCTGAG GCAGTATCTG GTTCAGGCAA GGGAGCAAGT GTGACACTTT GCTTGACCAT      1380

TGGAACCGGT ATCGGTGGTT GCTTGATTAT GGATAGGAAA GTCTTCCATG GTTTTAGCAA      1440

TTCAGCCTGT GAAGTCGGGT ATATGCATAT GCAGGATGGA GCTTTTCAAG ACTTGGCTTC      1500

TACAACAGCT TTAGTGAAAT ATGTAGCTGA AGCCCATGGA GAAGATGTTG ATCAGTGGAA      1560

TGGCCGTAGA ATTTTCAAAG AAGCCACTGA AGGAAACAAA ATCTGCATGG AAGGTATTGA      1620

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CTAGTTTGGC TCAGCCAAAC TAGGATTTTC TTACACGTTT TTGTCTACGA TAGCCGTTGA      1920

GTTTTTTATT TTCCCAGTAG CTATTAAAGA TTTTTTCCTT GCTTTCGCGA TTGATTTCCA      1980

AAAAGTAGGC ATAAATCAAA TCGATAAAGA AGAGCATAGG AAGTTGAGCG GATATTCGTT      2040

GGATATAGGA GGGTTGGCTG TGGGTGGCTA CAAGAACAGT CTCTGTATAG GTCTGGCTAT      2100

CTTTATTGGG AACACTTGTA AAGAGTACAG TCTTTGCCCC CATCTCCTTA GCATCTAATA      2160

GACTATCTAA AATAGAAGGA GTTGAGCCTG AAAGTGAGAA GCCCAGTACT AGACAATTTT      2220

CATCCATGAT GCTGGTTGTC CAGGCAAAGC CGTCTTGGTC TGTCAAAGCT TCGCAGACCA      2280

CACCTAGTCG CATAAAACGT AATTTCATTT CACGGGCGAC GAGGCCAGAA CTCCCTGTTC      2340

CAAAGAAGTA GATACGCTCA GCATCTTCGA TTAGCTGGGC AATTCGTTCT AGTTGGATTT      2400

CGTCAATCAA GTCTTGTGTT TGTTCCCTCA TATTGCTATA ACTTCTGAGG ACTCGTTTGG      2460

TCAGTGGACT GTGCTTGGAG ACTTGGTTGG CTTGATTTTC TGCCTGATGT TGGTATTGGA      2520

AAATAAATTC TCGGTAGCCA GTAAAGCCAC ACTTTTTAGC AAAGCGGGTC AAAGCAGCTT      2580

GAGAAATATG TAATTTTTGG GTGACTTGTT GAGAAGATAA ATCATCTGTA ATCGTTTCAG      2640

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GGAAGACTAG ATCAGAGAAT AGTCACACTT CATTATAACA CATAATATAA GGATAGATAA      2820

ATAAAAACGC ATCTCTGTTT TAAAAACGAA AAAATCGAAA AAGCTTCTCT CTTTTCCATA      2880

ATTTTCTACT CAAATTGTGG TACAATTAAG AGTAAGATTT TAAGTTAGAA ATGAGACTGA      2940
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792

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ACTATTTGGC TGATCCTGAA ATCTATAAAA AAATAGTGGA AGCTCTCCCA AGTGAGAAAC       3360

GCTTGGATTC AGATGGCAAT CGTCTATCCG AATCAGAACT GTATAACAAT GCGGTCGATA       3420

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GTCAGTTAAA TGCTGTTGGA AACTTTGCGA CAGGAACCAT TGCGACAGAT CCTCTAAATG       3540

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GTGAAAAAGC TGGTCTCCCA GCGGAAGAAG CAGAAGCCTA TCTTAAAAAA GGCTATTCTC       3720

TAAATGACCG TGTAGGAACC TCCTATTTGG AAAAGCAATA TGAAGAGACC TTACAAGGAA       3780

AACGCTCGGT AAAAGAAATC CATCTGGATA AATATGGCAA TATGGAAAGC GTGGATACAA       3840

TTGAGGAAGG TAGTAAGGGA AACAATATCA AACTGACCAT TGATTTGGCT TTCCAAGATA       3900

GCGTGGATGC TTTACTGAAA AGTTATTTCA ATTCTGAGCT AGAAAATGGT GGAGCCAAGT       3960

ATTCTGAAGG TGTCTATGCA GTCGCCCTTA ACCCAAAAAC AGGTGCGGTT TTGTCTATGT       4020

CAGGGATTAA ACATGACTTG AAAACGGGAG AGTTGACGCC TGATTCCTTG GGAACGGTAA       4080

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GTGTTCGTGT GGCTCCTCGT ATTGTTGAAG GCATTTATGG TAATAATGAT AAGGGAGGAC       4620

TGGGTGACTT GATTCAGCAA CTGCAACCGA CAGAGATGAA TAAGGTCAAT ATATCCGACT       4680

CCGATATGAG CATCTTGCAC CAAGGTTTTT ATCAGGTTGC CCATGGTACT AGTGGATTGA       4740
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793

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CCGAAAGCTA TGTGGCAGAT GGTCAGCAAG CAACCAATAC CAATGCGGTG GCCTATGCCC      4860

CATCTGATAA TCCCCAAATC GCTGTCGCAG TGGTCTTTCC TCATAATACC AATCTAACAA      4920

ATGGTGTAGG ACCTTCCATT GCGCGTGACA TTATCAATCT GTATCAAAAA TACCATCCAA      4980

TGAATTAGAA AGGAAATTAT GCTTTATCCA ACACCTATTG CCAAGTTGAT TGACAGTTAT      5040

TCTAAGTTAC CAGGTATCGG GATTAAGACG GCTACGCGTC TGGCCTTTTA TACGATTGGG      5100

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CCGACTCGTG ACCAGACAAC AATTTTAGTT CTTGAGGATA GTAGAGATGT GGCAGCCATG      5280

GAAAATATCC AAGAATACCA TGGACTCTAT CATGTCCTTC ATGGCCTCAT TTCTCCTATG      5340

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GCTGTGGGAG CGGACATTGA GTATGCGGAC GAAGTGACAC TCTTACGAGC CATTGAAAAT.     5580

CGGACAGAGT TGTAAGTGTA GGCAAATTTA CGAACTCCAT TCATTTATAA AAAATCAAAG      5640

AGGCTGAAAA TCGTTCCTAT CGGCCTCTTT TTGTATAGTG TGATGAGTAG GCTCAGGTTC      5700

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CGCTGAAGTG GAAGAAAAAT TGGCTTATCC AGTCTTCACT AAGCCGTCAA ACATGGGGTC      6300

TAGTGTCGGT ATTTCTAAGT CTGAAAACCA AGAAGAACTC CGTCAAGCCT TAAAACTTGC      6360

CTTCCGATAT GACAGCCGTG TCTTGGTTGA GCAAGGAGTG AATGC                      6405
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(2) INFORMATION FOR SEQ ID NO: 108:

794
(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 11309 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 108:

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CAGCAATGTA TTTGATGCCA GTTCAGGTGA TTTGTTTGAA CGCAGTAAAG CTCGCGGTTT       180

TGAAGCTGTA ATGCAGCGTT TGACAGGGAT TTTAGTCTTT TTCTGGCTAG CCATTGCCTT       240

AGCATTGACG GTATTATCAA GTAGATAAGA AAATAATGGG CAGGACTAGG TCTTTGCCTC       300

TTTTTATTTT TAAAGGATGT TTGAGAAGGT TTTACAGTAA AAGAAAATTA AAAAATCTAG       360

AAAGAAAATA TGAAAGATAG AATAAAAGAA TATTTACAAG ACAAGGGAAA GGTGACTGTT       420

AATGATTTGG CTCAGGCTTT GGGAAAAGAC AGTTCCAAGG ATTTTCGTGA GTTGATTAAA       480

ACCTTGTCCT TAATGGAAAG AAAGCACCAA ATTCGTTTTG AAGAAGATGG TAGTCTGACA       540

TTAGAAATTA AGAAAAAACA TGAGATTACC CTCAAGGGGA TTTTTCATGG CCATAAAAAT       600

GGCTTTGGCT TTGTTAGTCT GGAAGGCGAG GAGGACGACC TTTTTGTAGG GAAAAATGAT       660

GTCAACTATG CTATTGATGG TGATACCGTC GAGGTAGTGA TTAAGAAAGT CGCTGACCGC       720

AATAAGGGAA CAGCAGCAGA AGCCAAAATT ATTGATATCC TAGAACACAG TTTGACAACA       780

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AAAAATCAGA AAATCAGTCA ACCGATTTAT GTTAAGAAAC CAGCCCTAAA ATTAGAAGGA       900

ACAGAAGTTC TCAAAGTCTT TATCGATAAA TACCCAAGCA AGAAACATGA TTTCTTTGTC       960

GCGAGTGTTC TCGATGTAGT GGGACACTCA ACGGATGTCG GAATTGATGT TCTTGAGGTC      1020

TTGGAATCAA TGGACATTGT ATCCGAGTTT CCAGAAGCTG TTGTTAAGGA AGCAGAAAGT      1080

GTGCCTGATG CTCCGTCTCA AAAGGATATG GAAGGTCGTC TGGATCTAAG AGATGAAATT      1140

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CGAGTGGTGC CAATGCTTCC AGAACGACTA TCAAATGGCA TCTGCTCTCT CAATCCCCAA      1380

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795

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GTTCTTCGGC AGCGTGGTAT TGCCGAGCGG ATGATTGAGT CTTTTATGTT GATGGCTAAT      1740

GAAACAGTTG CCGAACATTT CAGCAAGTTG GATTTGCCTT TTATCTATCG AATTCACGAG      1800

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ATTTATGGAA CTGCCAGTGA GATTAGTCAG GAGGCACTTC AAGACATCAT GCGTGCTGTT      1920

GAGGGAGAAC CTTATGCAGA TGTATTGTCC ATGATGCTTC TTCGCTCTAT GCAGCAGGCT      1980

CGTTATTCGG AGCACAATCA CGGCCACTAT GGACTAGCTG CTGACTATTA TACTCACTTT      2040

ACCAGTCCAA TTCGTCGTTA TCCAGACCTT CTTGTTCACC GTATGATTCG GGATTACGGC      2100

CGTTCTAAGG AAATAGCAGA GCATTTTGAA CAAGTGATTC CAGAGATTGC GACCCAGTCT      2160

TCCAACCGTG AACGTCGTGC CATAGAAGCT GAGCGTGAAG TCGAAGCCAT GAAAAAGGCT      2220

GAGTATATGG AAGAATACGT GGGTGAAGAG TATGATGCAG TTGTATCAAG TATTGTCAAA      2280

TTCGGTCTCT TTGTCGAATT GCCAAACACA GTTGAAGGCT TGATTCACAT CACTAATCTG      2340

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CGCGCGTGTG ATGAAAGCTG TTAATCAGCG ATAAAAAGAG GAATTGAAAA TGGAAAAATT      3180

AGTTGCCTAT AAACGCATGC CTTTGTGGAA TAAACAAACA ATGCCTGAAG CTGTTCAGCA      3240
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796

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AGACAATCCA ATGGCCCAAC CTCAAGCCTG GCACCGAGTG GAAGCTGCCA CAGATGATGT    3420

GGAATGGTAC TTGGAATTTT ATTGTAAACC TGAGGATTAT TTTGCTAAAA AATACAATAC    3480

CAATCCTGTT CATTCAGAGG TCCTAGAGGC CATGCAGACA GTGAAACAAG GGAAAGCTTT    3540

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GACGGCTGTA GATCAAAATG GACTAGCTCT TGAAATCTTG CAAAGCATTG TGGAGCAGGA    3660

AGATTTGGAC ATGCCTGTTG GCCTTTACGA TATCAATTCA GCTAGCATTG AACAAGAATA    3720

TGATTTTATC GTTTCAACAG TTGTTCTCAT GTTTCTACAA GCGGACCGCA TTCCAGCTAT    3780

TATTCAAAAT ATGCAGGAGA AAACCAGTGT TGGTGGTTAC AACCTTATCG TTTGTGCCAT    3840

GGACACGGAG GATTATCCTT GCTCGGTTAA CTTCCCATTC ACCTTTAAAG AAGGAGAACT    3900

GGCAGACTAT TACAAGGATT GGGAATTGGT TAAGTACAAT GAAAATCCAG GCCATTTGCA    3960

CCGTCGCGAT GAGAATGGCA ATCGTATTCA ACTACGCTTT GCGACCTTAC TAGCTAAGAA    4020

AATCAAGTAA ACACACATGA AGATTAGGAA TTTTCCTGAT CTTTTTTCTT TTTTACGAAT    4080

GATATAGAAA AGGAGGGAAT TCATGTTTGT TGCGAGAGAT GCTAGGGGAG AATTGGTAAA    4140

TGTGTTAGAG GATAAACTTG AGAAGCAAGC ATACACCTGC CCAGCTTGTG GAGGCCAGCT    4200

CCATTTGCGT CAAGGACCAA GTGTACGGAC GCATTTTGCC CATAAATCCT TAAAAGACTG    4260

TGATTTTTTC TTTGAAAATG AAAGTCCAGA ACACCTGGCC AATAAGGAAT CCCTCTATCA    4320

CTGGTTGAAA AAAGAGACAA AGGTTCAATT AGAGTACCCG CTTTCAGAAC TTAAACAGAT    4380

TGCGGATGTA TTTGTAAATG GCAATCTAGC TCTAGAAGTT CAGTGTAGTC CCTTGCCTCA    4440

GAAAGTCCTT AAAGAGCGAA GTGAGGGCTA TCGTAGTCAG GGTTACCAAG TACTGTGGTT    4500

GCTGGGTCAA AAACTGTGGC TCAAGGAGCG TTTGACTCGT CTACAGCAAG GTTTTCTTTA    4560

TTTCAGTCAA AACATGGGCT TTTATGTTTG GGAATTAGAC AAGGAAAAAC AAGTTTTAAG    4620

ACTCAAATAC CTGATTTACC AGGATCTCCG CGGTAAACTC CATTATCAAA TCAAGGAATT    4680

TTCCTATGGT CAAGGTAGTT TATTGGAAAT ATTGCGTCTT CCCTATAAGA GACAAAAAAT    4740

ATCTCATTTT ACAGTTTCTG AGGACAAGGA CATCTGTCGC TATATCCGGC AACAACTTTA    4800

TTATCAAAAT CTCTTTTGGA TGAAAGAACA AGCAGAAGCC TATCAAAAGG GAGAAAATAT    4860

CCTGACTTAT GGACTGAAAG AATGGTATCC ACAAATTCGA CCAATAGTGG GCAAATTTTT    4920

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TCCTCAAAAT GATTGGCAAA AGCTTTATCC ACCAGCCTTT TATCAGCAAT ATTTCTTGAA    5040
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797

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CTTAAAAGAT TTAACAGAAC AATTGGAGAC AGTAGCCCAG TATGAAGGCC ATCTCTTGGA    5220

TAGTGCGGAT AACCTACTAG AAATCACTGA ATTTTCTCTT GAAATGGAAC GCCAGATAGA    5280

GAAGCTTTAC GCTTATGCTC ATATGAAGAA TGACCAGGAT ACACGTGAAG CTAAGTATCA    5340

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CCAAGAGTAT TATGGTTTGA GTAAGGAAGA CAATCCTGAA ATCCAATACG AGTGGGCTCG    6600

CATTCCACAC TTCTACTATA ACTACTATGT ATATCAATAT TCAACTGGCT TTGCGGCCGC    6660

CTCAGCCTTG GCTGAAAAAA TTGTCCATGG TAGTCAAGAA GACCGTGACC GCTATATCGA    6720

CTACCTCAAG GCAGGTAAGT CGGACTATCC ACTTAATGTC ATGAGAAAAG CTGGTGTTGA    6780
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798

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AACATGCGCC AAATGCTAAG ATTACAACTA TTGATCGTAA TCCAGAAATG ATTGGTTTTG   7200

CCAAGGAAAA TTTTGCCCAG TTTGACAGTC GCAAGCAAAT CACTCTCCTA GAGGGAGATG   7260

CGGTGGATGT CTTATCTACA CTGACAGAGT CTTATGATTT CGTCTTTATG GATTCTGCCA   7320

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TTGTCTTGGA TGATATTTTT CAAGGTGGTG ATGTTGCCAA GGATATTATG GAAGTCCGTC   7440

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